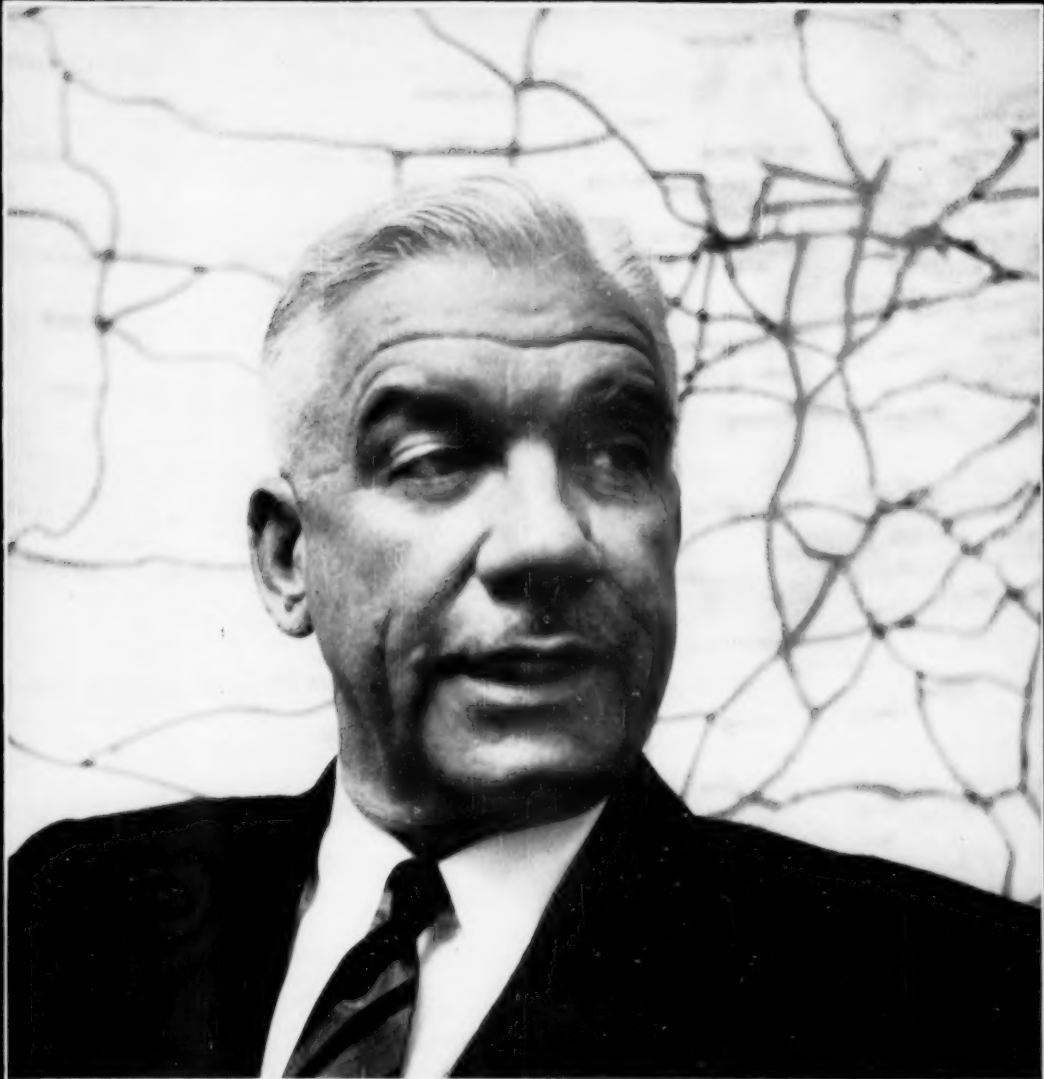


BUSINESS WEEK



Road Boss Tallamy: It takes engineering and salesmanship to spend \$50-billion (page 106)

A MCGRAW HILL PUBLICATION

MAY 4, 1957

ANN ARBOR MICH
313 N 1ST ST
UNIVERSITY MICROFILMS
E B POWER
GS BW
C 8-7



Photo courtesy Mohawk Carpet Mills, Inc., Amsterdam, N. Y.

Now—They can live in wall-to-wall luxury

A revolution is going on in the carpet industry. They call it "tufting"—a 12 to 15 times faster method of making wide carpet that brings wall-to-wall luxury within virtually everyone's reach.

Much of the credit for the success—even the very existence—of tufted carpet is laid to the back-size. This is a coating, applied to the backing, which anchors the tufts and adds much to the body and dimensional stability of the carpet.

Because of its vital role, the back-size used by more than one leading manufacturer is based on CHEMIGUM LATEX. The reasons? Sizes made with CHEMIGUM LATEX are easy to compound, easy to apply. They exhibit excellent long term aging, good pile or loop bind, resist washing or dry cleaning, don't become brittle or tacky, and retain their light color.

For much the same reasons, CHEMIGUM LATEX is used in sizes for high-quality woven carpets and in sizes, binders and finishes for many other textile, paper and leather products. If you would like further information on CHEMIGUM LATEX, write to: Goodyear, Chemical Division, Dept. E-9415, Akron 16, Ohio.



COATINGS
DEPARTMENT

Chemigum, Plidex, Pliolite, Plio-Tuf, Pliovic—T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio

CHEMIGUM • PLIOFLEX • PLIOLITE • PLIO-TUF • PLIOVIC • WING-CHEMICALS
High Polymer Resins, Rubbers, Latexes and Related Chemicals for the Process Industries

GENERAL BUSINESS

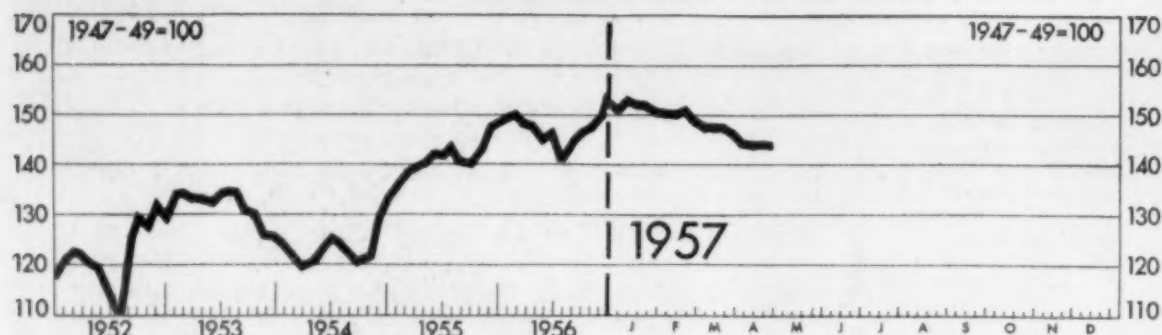
	Page
BUSINESS OUTLOOK	35
WASHINGTON OUTLOOK	55
INTERNATIONAL OUTLOOK	141
PERSONAL BUSINESS	161
THE TREND	196
FIGURES OF THE WEEK	2
CHARTS OF THE WEEK	178
READERS REPORT	5

WALL STREET REFIGURES THE ODDS. It's looking at near-term business prospects. But rumor-based speculation also plays part.	39
WHAT'S BEHIND THE GIDDY DOINGS OF LUKENS STOCK. The inside story of the season's most sensational performance on the Big Board.	40
CLOUDING DETROIT'S 1958 DREAM. Federal Reserve study of auto financing casts doubt on hopes for another surge like 1955.	43
WEST SCORES VICTORY IN JORDAN. Thanks to King Hussein and his success against Egypt and Russia, there is more optimism than at any time since Suez	44
TELEVISED NEWS PANEL SHOWS PACK A NATIONAL WALLOP. Washington-based programs are interesting, occasionally sensational, and once in a while they change our foreign and domestic policy.	46
OIL FUELS NEW TRADE FIGHT. President's decision on oil import curbs will have important bearing on trade policy.	50
IN BUSINESS. News about ore freight rates from eastern ports, suspended accounting firm, Big Board's tougher listing rules, plans for reactor.	52

THE DEPARTMENTS

BUSINESS ABROAD:	Overseas Profits Lend a Hand. Colgate-Palmolive's overseas subsidiary is huskier than its parent.	120
	B-Schools Grooming Men for International Business.	128
	In Business Abroad	135
ECONOMICS:	What a Drop in Housing Means to Industry	136
FINANCE:	People Are Borrowing More. Consumer personal loans are climbing, but lenders see the rise as in line with increasing incomes.	78
	Posting Checks by Electronics. New Jersey bank installs \$11,000 unit.	86
	Playing Safe. Wiesenberger survey shows 10 major trusts concentrated their first-quarter buying among defensive issues.	90
	Run on Three Chicago Banks. Deposits of 32,000 customers aren't insured.	92
GOVERNMENT:	In Washington. News about policing air traffic, industrial concentration, depreciation loophole, Humphrey's view on fast write-offs.	145
INDUSTRIES:	Highway Plan Crawls in Its First Year: As expected, it's mostly planning so far.	106
LABOR:	Timetable for Labor Reform. White House wants a few things now, package program later	147
	Foremen Warm Up to Union. Management hasn't yet developed the techniques and training programs to keep supervisors in its own camp.	149
	NLRB Lends Ear to "Orphan" Disputes where jurisdiction is unclear.	153
	In Labor	155
MANAGEMENT:	Learning Can Be Fun—Even for Busy Executives. Making decisions becomes a game with electronic help.	164
	School Tests as Science Bait. Oklahoma starts a rush to math and the sciences.	172
	In Management	177
MARKETING:	In Marketing	59
	The New Customer—Skilled, Choosy, Culture-Hungry. Tastes are getting more definite, more demanding of innovations and selection. This makes problems.	62
THE MARKETS:	Bond Prices Soften Again. Huge overhanging mass of new flotations helps cause the latest rise in money rates.	157
	Wall St. Talks	153
NEW PRODUCTS:	A Tube That Shrinks TV Sets. New wide-angle design is making receivers slimmer.	189
	Cheaper Cartoons. New process uses machines instead of artists.	192
PRODUCTION:	Steel Hunts Harder for Flaws. Using Magnaglo, an old process with a new name.	183
	Thorium Gets Boost—But Not Far. Scientists plug it as nuclear energy source, but AEC turns cold shoulder for now.	187
RESEARCH:	Ready for New Tricks in Atom-Smashing with University of California's "straight-shooting" HILAC	94

FIGURES OF THE WEEK



BUSINESS WEEK INDEX (chart)

PRODUCTION

	1946 Average	Year Ago	Month Ago	Week Ago	§ Latest Week
Steel ingot (thous. of tons).....	1,281	2,373	2,319	†2,269	2,278
Automobiles and trucks.....	62,880	163,136	164,151	†151,358	161,125
Engineering const. awards (Eng. News-Rec. 4-wk daily av. in thous.).....	\$17,083	\$82,551	\$59,526	\$60,838	\$68,944
Electric power (millions of kilowatt-hours).....	4,238	10,867	11,694	11,485	11,310
Crude oil and condensate (daily av., thous. of bbls.).....	4,751	7,146	7,786	7,551	7,537
Bituminous coal (daily av., thous. of tons).....	1,745	1,631	1,723	1,650	1,700
Paperboard (tons).....	167,269	293,282	274,516	282,574	248,935

TRADE

Carloadings: miscellaneous and l.c.l. (daily av., thous. of cars).....	82	75	69	67	67
Carloadings: all others (daily av., thous. of cars).....	53	52	46	45	48
Department store sales index (1947-49 = 100, not seasonally adjusted).....	90	113	113	†122	128
Business failures (Dun & Bradstreet, number).....	22	236	290	302	263

PRICES

Spot commodities, daily index (Moody's, Dec. 31, 1931 = 100).....	311.9	420.8	409.1	407.6	406.2
Industrial raw materials, daily index (BLS, 1947-49 = 100).....	††73.2	98.3	93.8	93.6	93.3
Foodstuffs, daily index (BLS, 1947-49 = 100).....	††75.4	83.1	81.3	82.6	81.4
Print cloth (spot and nearby, yd.).....	17.5¢	19.4¢	17.9¢	17.9¢	17.8¢
Finished steel, index (BLS, 1947-49 = 100).....	††76.4	157.1	174.0	174.0	174.0
Scrap steel composite (Iron Age, ton).....	\$20.27	\$55.00	\$44.17	\$42.17	\$42.83
Copper (electrolytic, delivered price, E & MJ, lb.).....	14.045¢	45.775¢	31.730¢	31.915¢	31.910¢
Wheat (No. 2, hard and dark hard winter, Kansas City, bu.).....	\$1.97	\$2.29	\$2.32	\$2.37	\$2.30
Cotton, daily price (middling, 1 in., 14 designated markets, lb.).....	**30.56¢	36.35¢	33.87¢	33.88¢	33.86¢
Wool tops (Boston, lb.).....	\$1.51	\$1.73	\$2.10	\$2.10	\$2.18

FINANCE

500 stocks composite, price index (S&P's, 1941-43 = 10).....	17.08	48.04	44.28	45.57	45.71
Medium grade corporate bond yield (Baa issues, Moody's).....	3.05%	3.72%	4.42%	4.45%	4.47%
Prime commercial paper, 4 to 6 months, N. Y. City (prevailing rate).....	¾-1%	3¼%	3%	3%	3%

BANKING (Millions of Dollars)

Demand deposits adjusted, reporting member banks.....	††45,820	56,908	55,472	56,588	56,695
Total loans and investments, reporting member banks.....	††71,916	85,340	85,604	87,268	86,716
Commercial and agricultural loans, reporting member banks.....	††9,299	27,842	31,433	†31,524	31,349
U. S. gov't guaranteed obligations held, reporting member banks.....	††49,879	27,509	25,164	26,258	25,972
Total federal reserve credit outstanding.....	23,888	25,374	24,930	25,520	25,695

MONTHLY FIGURES OF THE WEEK

McGraw-Hill Indexes of New Orders (1950=100)

	1946 Average	Year Ago	Month Ago	Latest Month
New orders for machinery, except electrical.....	N.A.	141	150	144
Construction & mining machinery.....	N.A.	190	170	177
Engines & turbines.....	N.A.	169	139	151
Pumps & compressors.....	N.A.	132	191	200
Metalworking machinery.....	N.A.	223	167	157
Other industrial machinery.....	N.A.	145	148	152
Office equipment.....	N.A.	152	164	182
New contracts for industrial building.....	N.A.	276	153	144

* Preliminary, week ended April 27, 1957.
† Revised.

†† Estimate.
** Ten designated markets, middling † in.

N. A. Not available.
§ Date for 'Latest Week' on each series on request.

THE PICTURES—Russ Allen—40; Jon Brenneis—94, 95, 96; California Highways & Public Works Dept.—106 (bot.), 110; Colgate-Palmolive Co.—123, 124; Grant Compton—46, 47, 48, 164, 165, 166; Rene Groebli—45; I. N. P.—44, 92; Herb Kratochvil—cover, 41, 106 (top), 107, 128, 129, 130; Sylvania Electric Products Inc.—190; Timken Roller Bearing Co.—183.



TELEPHONE EXECUTIVES GO TO SCHOOL. From September to June, different groups of department heads and assistant vice presidents from various telephone companies attend Bell System Executive Conferences. Actual business problems are

discussed and solved in small groups. Teachers and lecturers are top telephone men, professors from a number of leading colleges, and experts in the broad fields of economics, finance, labor relations, business management, etc.

Training for Telephone Management

Bell System training programs to build executive skills and stature bring many benefits to telephone customers and the company, as well as telephone people.

"If you want a crop for a hundred years, grow men." So runs an old proverb. And so runs the thinking of the Bell System.

There is nothing more important to good telephone service—and to the future of the business—than the finding and developing of capable people for management positions.

The Bell System has long been among the leaders in this field and it

has pioneered new methods for the training of executives at various stages of their careers. They range from development courses for newly appointed managers to extensive liberal arts courses at leading universities.

The Bell System Executive Conference is an interesting example of one type of program. For four weeks, groups of telephone executives from different parts of the country live together, study together and debate together.

Specific problems in business are discussed and solved. But the larger objective is a better understanding of the broad field of economics, social

forces, public and employee relations, finance and the administrative skills needed for effective leadership. Such a background becomes more necessary as the business grows.

The plan has worked so well that there are now Advanced Executive Conferences where each participant is put in the position of a general officer of a telephone company and emphasis is put on current and anticipated management problems.

From all of this comes a broadening of executive ability and stature for the needs of today and a continuing flow of able leaders for the years ahead.





FLASH...
an *Original Idea!

**You Can
Count On...
to Pay Off!**



Series 1205
Reset Magnetic Counter

It's the *Original Equipment idea . . . which simply means that, when you're figuring on electrical or mechanical counters in any new product, it pays to design them in, when you begin.

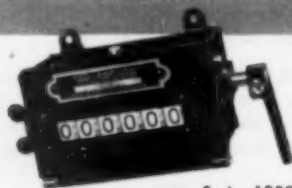
For then Veeder-Root quite likely can save you time and money by adapting or modifying a *standard* counter to your needs, instead of a special which you might specify on your own. This solves the counter problem . . . and saves you time in engineering, purchasing and assembly.

What's more, you give your product new sales-advantages: Direct-reading digits, instead of hard-to-read dials and verniers . . . instant remote indication if needed . . . up-to-the-minute performance records that serve as a basis for production-Control, and as proof of your performance guarantee. So don't let counters take a back seat in your new-product plans. *Design them in, when you begin . . . it pays in many ways.* Do you have the newest Veeder-Root Catalog? Write



**Everyone
Can Count on
Veeder-Root
INCORPORATED**

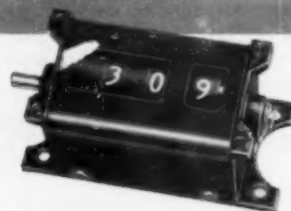
Hartford, Conn. • Greenville, S. C. • Chicago • New York
Los Angeles • San Francisco • Montreal
Offices and Agents in Principal Cities



Series 1380
Box-Type Counter (Ratchet,
Revolution, or Geared)



4-bank Counter for
Radio Transmission Equipment



360-degree Bearing Counter

EDITOR & PUBLISHER Elliott V. Bell
MANAGING EDITOR Kenneth Kramer

ASSISTANT MANAGING EDITOR Robert B. Colborn
ASSOCIATE MANAGING EDITORS John L. Cobbs, Peter French, Eugene Miller
SENIOR EDITORS
 Clark R. Pace, Merlyn S. Pitzele, Howard Whidden

DEPARTMENTS

Business Outlook: Clark R. Pace, *Editor*
Economics: Leonard Silk, *Editor*
Finance: William McKee Gillingham, *Editor*; Albert C. Lasher
Foreign: Howard Whidden, *Editor*; Sol Sanders, Paul Finney
Industrial Production: Theodore B. Merrill, Jr., *Editor*; C. Peter Buckley
Labor: Merlyn S. Pitzele, *Editor*; Edward T. Townsend, Robert R. Reichenbach
Management: Lee Geist, *Editor*; Edward McCreary
Marketing: Richard L. Waddell, *Editor*; Cora Carter, Jack E. Patterson
Money & Credit: M. J. Rossant, *Editor*
Personal Business: Joseph L. Wiltsee
Regions: Werner Renberg, *Editor*
Research: Jane H. Cutaia, *Editor*
Statistics: Elsa Denno
Staff Writers: John H. Maughan, Brenton Welling, Jr.
Illustration: Richard A. Wolters, *Editor*; Robert Iscar, *Pictures*; Louis H. Dufault, *Graphics*; Grant Compton, Jack H. Fuller, Herbert F. Kratochvil, Jomary Mosley, Elizabeth Pollock, Arthur Richter, Joan Sydlow
Library: Dorothy Roantree, *Librarian*; Jane G. Racza
Assistant to the Editor and Publisher: Gerald W. Schroder

NEWS EDITORS

T. B. Crane (*Senior News Editor*), Jeanne A. Bernhardt, Robert F. Deed, Lawrence H. Odell, Doris I. White

EDITORIAL ASSISTANTS

Mary T. Beckerle, Edward J. Burgess, Jr., Jean Drummond, Marilyn Holmes, Kathleen Kundel, Irwin Lainoff, Olive L'Heureux, Ann Woods

McGRAW-HILL ECONOMICS STAFF

Dexter M. Keezer, *Director*; Theodore C. Boyden, William H. Chartener, Douglas Greenwald, Robert P. Ulin

U.S. & CANADIAN NEWS SERVICE

Atlanta Bureau: Frances Ridgway
Boston Bureau: Norman Kotker, *Manager*
Chicago Bureau: Merlin H. Mickel, *Manager*; Joanne Sponsler
Detroit Bureau: William Kroger, *Manager*; Keith G. Felcyn, Brooke Dixon
Houston Bureau: Normand DuBeau, *Manager*; George W. New
Los Angeles Bureau: Thomas M. Self, *Manager*; James P. Roscow, Margaret W. Hayes
Milwaukee Bureau: Charles M. Garvey, *Manager*; Kathleen C. Horan
Philadelphia Bureau: W. B. Whichard, Jr., *Manager*; Esther A. Schultz
Pittsburgh Bureau: Richard N. Larkin, *Manager*; John K. Fockler, Elinore S. Thomas
San Francisco Bureau: Richard Lamb, *Manager*; Margaret J. Scandling
Toronto Bureau: John D. Harbron, *Manager*; Jean Ross-Skinner
Washington Bureau: George B. Bryant, Jr., *Manager*; Alan E. Adams, Glen Bayless, Roy Calvin, Ernest Conine, John C. L. Donaldson, Jay Flocken, Boyd France, Sam Justice, Arthur J. Kraft, Donald O. Loomis, Gladys Montgomery, Arthur L. Moore, Seth Payne, Morton A. Reichel, V. Craig Richter, Caroline Robertson, Vincent Smith

McGRAW-HILL WORLD NEWS SERVICE

Editor: John Wilhelm; **Beirut:** O. M. Marashian; **Bonn:** Morrie Helitzer, Thomas Berendt, Silke Brueckler; **London:** William J. Coughlin, John Tunstall, Robert Gibson, Derek Barlow; **Melbourne:** Alicia Grobuchi; **Mexico City:** Jack Kearney; **Paris:** Robert E. Farrell, Helen Avati; **Rio de Janeiro:** Peter Weaver; **Tokyo:** Dan Kurzman

ASSOCIATE PUBLISHER Bayard E. Sawyer

ADVERTISING MANAGER John M. Holden

BUSINESS MANAGER Richard E. McGraw



BUSINESS WEEK • MAY 4, 1957 • NUMBER 1444

(with which are combined The Analyst and the Magazine of Business) Published weekly by McGraw-Hill Publishing Company, Inc., James H. McGraw (1860-1948), Founder. PUBLICATION OFFICE: 99-129 North Broadway, Albany 1, N. Y. See panel below for directions regarding subscriptions or change of address. EXECUTIVE, EDITORIAL, CIRCULATION AND ADVERTISING OFFICES: McGraw-Hill Building, 330 West 42nd Street, N. Y. 36, N. Y. Donald C. McGraw, President; Joseph A. Gerardi, Executive Vice President and Treasurer; John J. Cooke, Secretary; Nelson Bond, Executive Vice President, Publication Division; Ralph B. Smith, Vice President and Editorial Director; Joseph H. Allen, Vice President and Director of Advertising Sales; A. R. Venezian, Vice President and Circulation Coordinator. Subscriptions to Business Week are solicited only from management men in business and industry. POSITION AND COMPANY CONNECTION MUST BE INDICATED ON SUBSCRIPTION ORDERS. SEND TO ADDRESS SHOWN IN BOX BELOW. United States subscription rates for individuals in the field of the publication, \$6 per year; Canada, \$7; other Western Hemisphere countries and the Philippines, \$20; all other countries, \$25. Single copies, 25¢. Second class mail privileges authorized at Albany, N. Y. Printed in U. S. A. Title registered in U. S. Patent Office. © Copyright 1957 by McGraw-Hill Publishing Co., Inc. All rights reserved.

SUBSCRIPTIONS: Send subscription correspondence and change of address to Subscription Manager, BUSINESS WEEK, 330 W. 42nd Street, N. Y. 36, N. Y. Subscribers should notify publisher promptly of any change of address, giving old as well as new address, and including postal zone number, if any. If possible, enclose an address label from a recent issue of the magazine. Please allow one month for change to become effective.

POSTMASTER . . . Please send form 3579 to Business Week, 330 W. 42nd Street, N. Y. 36, N. Y.

READERS REPORT

Artistic Executives

Dear Sir:

I wish to express my appreciation to you for the fine manner in which you presented From the Executive Easel to your readers [BW—Apr.6'57,p44]. Many of my friends have told me that they felt the article was most informative and interesting to them as businessmen. . . .

ELMER L. WINTER

PRESIDENT
 MANPOWER, INC.
 MILWAUKEE, WISC.

Credit Wise

Dear Sir:

I am much interested in the letters from Messrs. Simon and Moncher, and your comment [BW—Apr.13'57,pp5&14], on the cash discount situation. When the original article was published [BW—Mar.23'57,p126] I was tempted to write you along similar lines . . . but decided this statement hardly deserved comment from me. I have now decided that matter does deserve comment because of something that seems to have escaped the attention of everyone.

I am now retired, but I well remember that when I was the treasurer of a manufacturing company one of our main reasons for continuing cash discounts was the credit information we got when a customer failed to take advantage of the discount.

I can well believe that some buyers may be paying the severe penalties inherent in not taking cash discounts, but such action certainly puts the seller on notice that these buyers are so far extended financially as not to be able to borrow from the banks. Our own company did not care to extend credit to such companies; perhaps that was one reason why our losses from uncollectible accounts were so small.

PAUL T. NORTON, JR.
 ST. PETERSBURG, FLA.

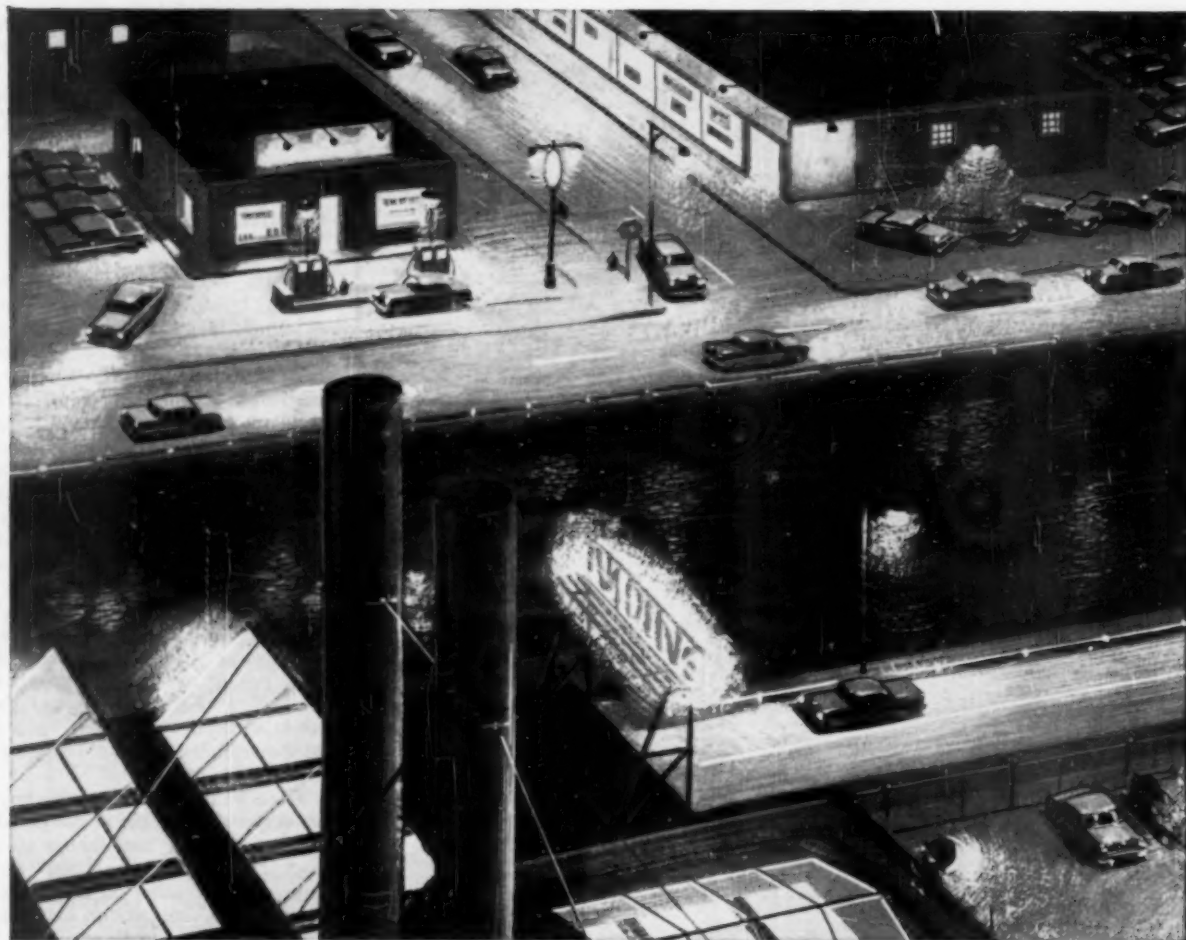
Deferred Profit Sharing

Dear Sir:

In your article, Who Gets the Welfare Fund? [BW—Apr.6'57, p58] I believe you neglected to point out one important item; namely, that the statements in the article do not apply to welfare funds financed through qualified deferred profit sharing plans. With

INDOORS AND OUT

LAMPS ARE IN SERVICE THAN



They're Job-Tailored to give you the most mercury light for your money

From Westinghouse developments like those below, you can see how the built-in quality of Westinghouse Mercury Lamps gives *more light when new, more light throughout life, as well as guaranteed long life.*

- Thorium-Coated Electrodes provide HIGHER LIGHT OUTPUT
- Molybdenum Ribbon Seals assure GREATER DEPENDABILITY, LONGER LIFE
- Hi-Temp Life-Time Bases eliminate INSTALLATION AND SERVICE BREAKAGE
- *Weather Duty® construction with special "hard" glass. Outside installations can't be harmed by snow, sleet or rain even when lamps are installed without protective coverings . . . or inside by fumes, or dripping condensation.*

For recommendations for using the most complete line of mercury lighting—for the right kind of lamp for the job—call your nearest Westinghouse lamp supplier or write: Westinghouse Lamp Division, Dept. B-5, Bloomfield, N. J.



YOU CAN BE SURE...IF IT'S **Westinghouse**



B-H18: 700 W. Fluorescent-Mercury Lamp. Color-corrected Golden-White light for general purposes, flood and street lighting. A Westinghouse exclusive.

MORE WESTINGHOUSE MERCURY ALL OTHER BRANDS COMBINED



E-H1: 400 W. Mercury Lamp. Most widely used today. For interior and street lighting. **E-H1-Y:** Built-in clear yellow filter warns of road hazards.



A-H12-WD; A-H15-WD: 1,000 W. Weather Duty Mercury Lamp. Recommended for all interior and exterior applications. Widely used for industrial high bay lighting. Weather proof for heavy duty service.



A-H1-WD: 400 W. Weather Duty Mercury Lamp. Recommended for general purposes, flood and street lighting. Weather proof for heavy duty service.



P-H1: 400 W. Semi-Reflector Mercury Lamp. Color-corrected Golden-White for all interior uses. Ideal for areas of high dust concentration.



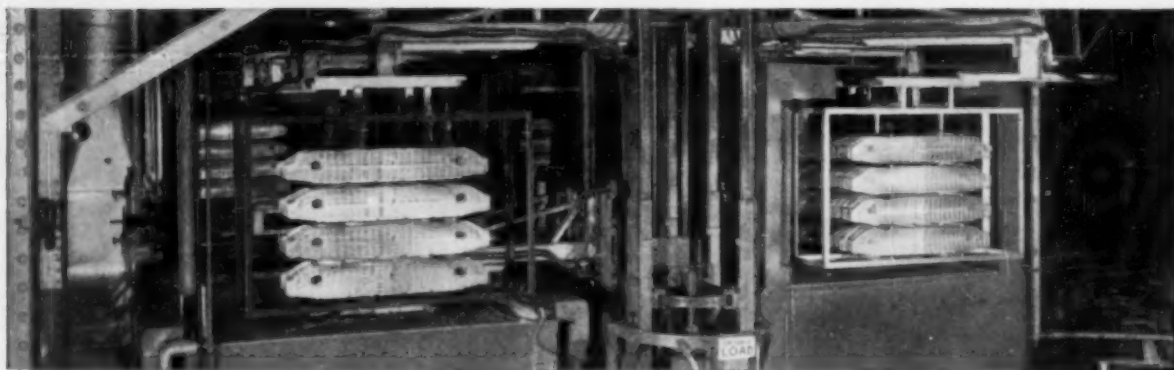
C-H12-WD; B-H15-WD: 1,000 W. Weather Duty Fluorescent-Mercury Lamp. Color-corrected Golden-White light for general interior and floodlighting. Weather proof for heavy duty service.



J-H1: 400 W. Fluorescent-Mercury Lamp. Golden-White light is color-corrected for interior and street applications. **J-H1-Y:** Rich, yellow light to identify road hazards. Ideal substitute for sodium installations.

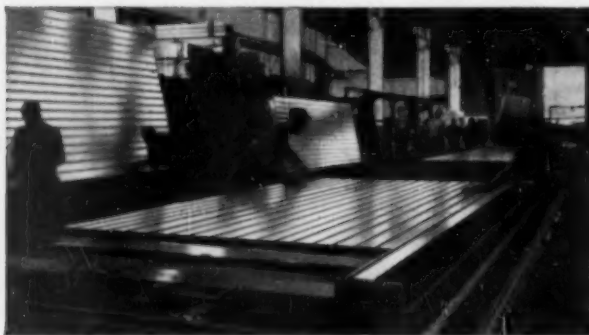
These Reynolds fabricating and finishing facilities can save you money

here are 7

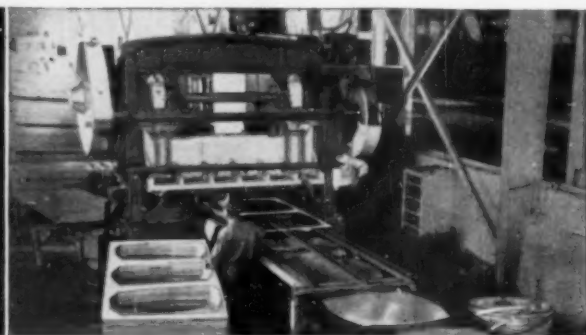


1 Reynolds ADDS TO YOUR CAPACITY WITHOUT INCREASING COSTS
Reynolds great variety of specialized equipment assures you the economy of the equipment best suited to your purpose. This can save you important capital investments in equipment and added plant capacity. The new Reynolds automatic aluminum finishing sys-

tem above—shown gold anodizing automobile grilles—can finish mixed sizes and types of parts and chemically brighten or anodize them in different colors—and can handle several different jobs at the same time. An automatic coding system establishes the individual finishing specifications for each job.



2 Reynolds CUTS YOUR MATERIAL HANDLING COSTS
Reynolds assembling of the aluminum siding panels for truck subassemblies above is saving money for a truck-trailer manufacturer. Whether you make telephone booths, portable TV cabinets or a host of other products, you'll cut your handling costs by getting parts from Reynolds. Reynolds also takes the problems of scheduling, material supply, labor and machine availability off your hands.

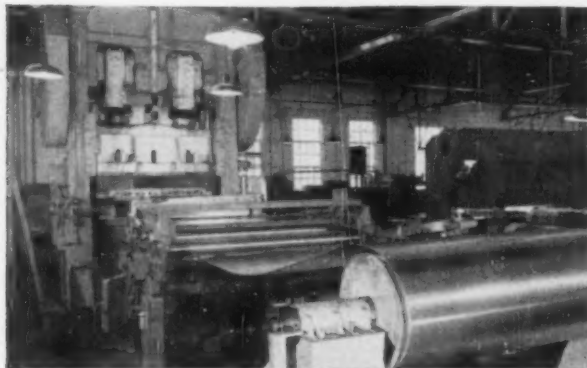


3 Reynolds CUTS YOUR SCRAP LOSS AND HANDLING COSTS
The aluminum blanks on the conveyor are ready to go to an appliance manufacturer. The scrap beside the press is remelted immediately right at the Reynolds plant. Thus Reynolds Aluminum Fabricating Service saves you—the manufacturer—an average of 30% scrap loss and also eliminates costly time and labor scrap handling expense on your part in sorting, storing and shipping.

For details on Reynolds fabricating and finishing facilities write for your copy of Reynolds "Complete Facilities" brochure. And for the assistance of Reynolds Styling and Engineering Service, contact your nearest Reynolds Office or write to the address on the facing page.

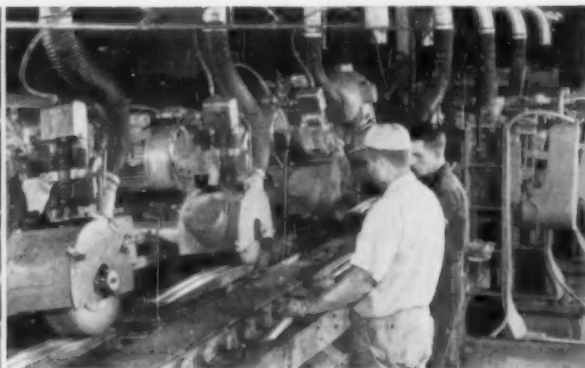


good reasons why



4 Reynolds REDUCES YOUR RAW MATERIAL INVENTORY

You get *pounds of parts* instead of pounds of metal when you use Reynolds Aluminum Fabricating Service. Like the manufacturer who will receive the parts in work on these high speed coil fed presses, you too can save by cutting out that costly part of your metal inventory that does not go into finished parts.



5 Reynolds RELEASES YOUR VALUABLE FLOOR SPACE

Equipment such as Reynolds new high speed buffing machines above, plus stocks of raw materials, take up valuable floor space. Imagine the space you can save in your plant—space you can put to profitable use—when you rely on Reynolds to produce quality aluminum components for your products.



6 Reynolds OFFERS YOU DELAYED MATERIAL BILLING

You receive 100% of your aluminum in finished parts when you use Reynolds Aluminum Fabricating Service. And, as these parts are generally billed after assembly into finished products, no investment is tied up in raw metal. Roll forming machines are but one example of the more than 200 pieces of major fabricating and finishing equipment offered by Reynolds in two plants alone.



7 Reynolds ELIMINATES YOUR REJECT COSTS

Reynolds Aluminum Fabricating Service does away with your machine and labor production losses and inspection expense in rejects, because you pay only for finished, inspected parts. The conveyor line above, where finished aluminum parts are carefully inspected before packing and shipping, is just one of the many examples of Reynolds quality control from mine to finished part.

See "CIRCUS BOY", Reynolds exciting dramatic series, Sundays, NBC-TV

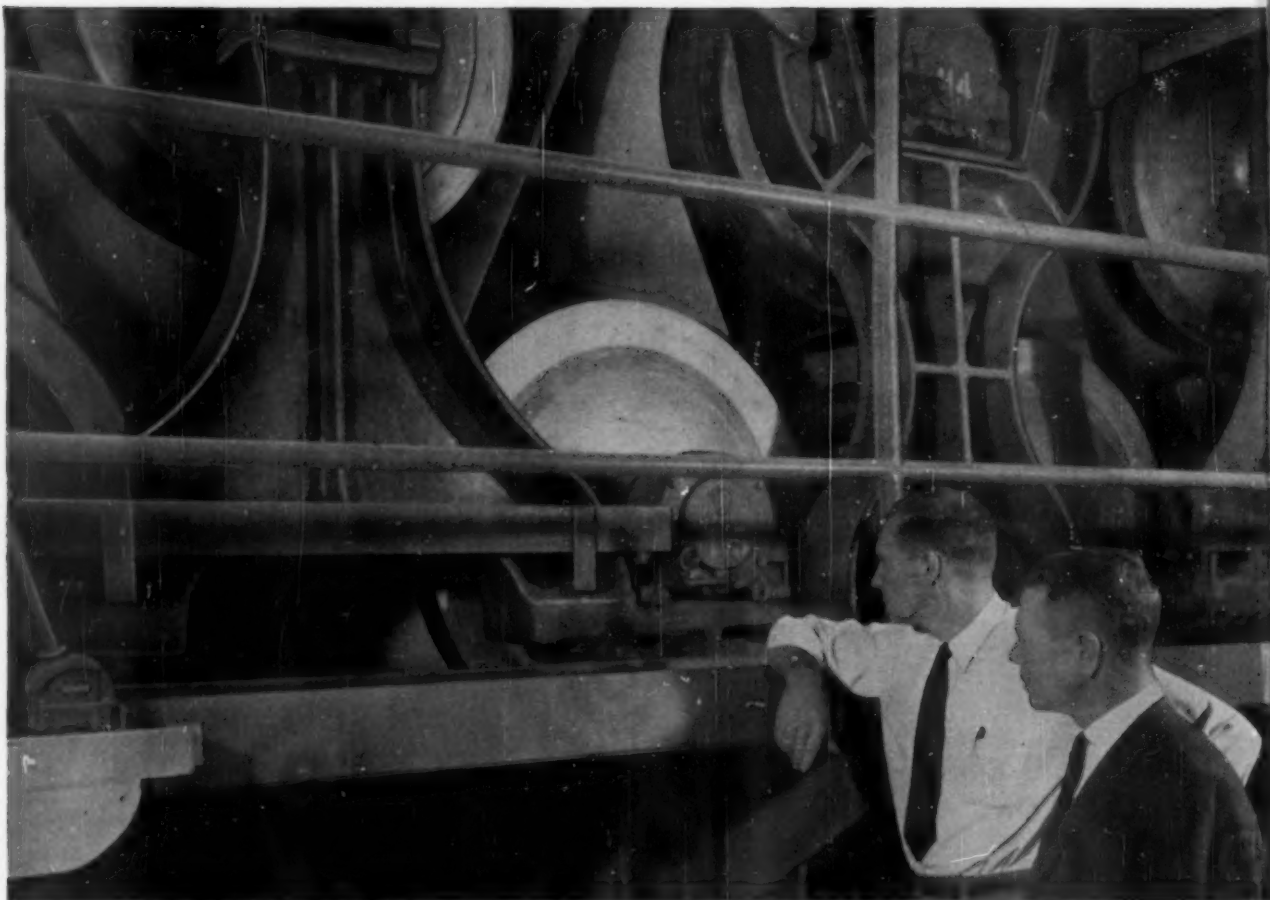
REYNOLDS ALUMINUM FABRICATING SERVICE

2085 South Ninth Street, Louisville 1, Kentucky

BLANKING • EMBOSsing
STAMPING • DRAWING
RIVETING • FORMING
ROLL SHAPING • TUBE
BENDING • WELDING
BRAZING • FINISHING

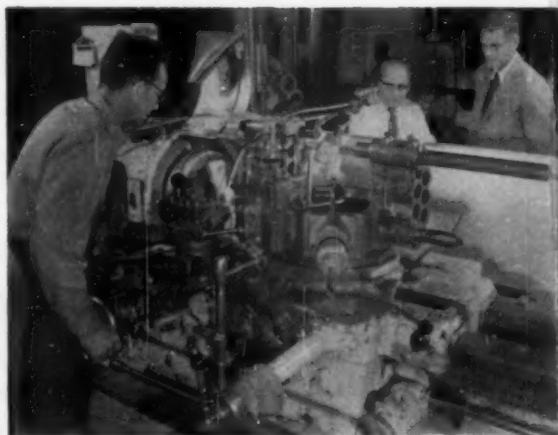
Let it work for you...

GULF PETRO-



Officials of leading paper mills credit Gulf Petro-engineering Service with substantial reductions in down time and maintenance costs. The Gulf engineer who calls on you is a trained expert in fuel and lubricating problems of your particular industry.

The Gulf engineer can help you on individual machine tool problems—for instance, where better lubrication is needed without too great a sacrifice in cooling. His suggestions often improve unit production, increase tool life and lower costs.



ENGINEERING SERVICE

...management's newest tool
for improving operations, cutting costs

Petroleum science moves swiftly to keep a step ahead of industry's requirements. Hardly a month goes by without some new development in lubricants, fuels, cutting fluids, rust preventives, process oils—developments that contribute to improved equipment performance and lower operating costs.

Few firms, however, can afford to spend the time or money needed to stay abreast of all the new discoveries in this highly technical field. That's where Gulf Petro-engineering Service steps in to help you—*entirely free of cost or obligation*.

Expert help on the spot

Gulf Petro-engineering Service puts a petroleum specialist on your staff. Whenever you come across *any* problem involving *any* petroleum product he's available for quick consultation. He'll visit your plant or base of operations . . . talk over the problem with you or your men . . . make a recom-

mendation. On highly involved problems, he'll consult with other specialists in the Gulf organization to find the right answer.

Call on this vast technical reserve

The typical Gulf field representative who serves you is a trained engineer. He has broad knowledge of the industrial uses of petroleum products . . . years of operating and maintenance experience.

Gulf representatives are backed up by more than 1,300 scientists, engineers, metallurgists and chemists at Gulf laboratories. Their specialized knowledge, coupled with the field engineers' experience, adds up to a broader, better petroleum service . . . available to you at any time.

Let Gulf Petro-engineering Service work for you. Write for 24-page descriptive booklet—or contact your nearest Gulf office.



Scores of utility companies keep their turbine-generators operating continuously with the help of Gulf Petro-engineering Service.



GULF OIL CORPORATION

1822 Gulf Building
Pittsburgh 30, Pa.

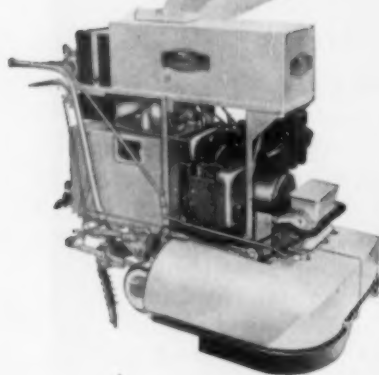
THE FINEST
PETROLEUM PRODUCTS
FOR ALL YOUR NEEDS

Self-Powered

COMBINATION SCRUBBER-VAC

Cleans Vast-Area Floors "By the Mile"

Monoxide Eliminator,
Powder Dispenser,
and Rinse Assembly
are accessories



- Completely mechanizes scrubbing
- Coverage up to 24,400 sq. ft. per hour!
- Mounts a SELF-STARTING gasoline engine

This *all-in-one* cleaning unit, Finnell's 218G Gasoline-Powered Combination Scrubber-Vac, is indeed the answer to today's need for increasing output per man-hour on vast-area scrubbing. The 218G applies the cleanser, scrubs, flush-rinses if required, and picks up (damp-dries the floor) — *all in one operation!* Independence from power lines permits the machine to go wherever the operator guides it . . . working in and out of production areas with ease . . . *scrubbing continuously.*

Maintenance men appreciate the labor-saving features of this unit. The gasoline engine starts quickly and easily by pressing the starter button. And there are no switches to set for *fast or slow* — slight pressure of the hand on clutch lever adjusts speed to desired rate (up to 136 fpm). Two 18-inch brushes give a 36-inch scrubbing surface. *One engine* (2 cyl., 4 cycle, up to 10.1 hp maximum, and air-cooled) operates all working parts. The powerful vac performs quietly.

Whatever the area of your floors, find out what you would save with a *Combination Scrubber-Vac*. Finnell makes *self-powered* models, gasoline or propane operated, in 18, 30, and 36-inch sizes, and also *electric* models in sizes to meet specific needs. It's good to know too that a *Finnell Floor Specialist and Engineer* is nearby to help train your maintenance operators in the proper use of *Finnell Equipment* and to make periodic check-ups. For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 3805 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

FINNELL SYSTEM, INC.

*Originators of
Power Scrubbing and Polishing Machines*



BRANCHES
IN ALL
PRINCIPAL
CITIES

deferred profit sharing, the employees own the fund and none of the assets can revert to the company. Under such a plan, employees are protected in cases of bankruptcy, and the problem does not exist.

J. J. JEHRING

PROFIT SHARING RESEARCH
FOUNDATION
EVANSTON, ILL.

Additional Use

Dear Sir:

Your New Products column always rates a bouquet. . . . We were especially pleased to see the new pump for chemicals by Vanton Equipment Corporation [BW—Apr.13'57,p198] for whom we mold silicone and rubber Flexi-Liners.

We regret that you did not mention the humanitarian aspect of a similar pump by Vanton which plays a major role in some of today's heart lung machines. . . .

CHARLES D. PENN

ACUSHNET PROCESS COMPANY
NEW BEDFORD, MASS.

Prohibitive Expense

Dear Sir:

I have read what you wrote under Washington Outlook concerning the Frying Pan-Arkansas Dam.

A great many people from this city visit that area both winter and summer and we are all very adverse to this trans-mountain water diversion project.

The two rivers that will supply water are the Frying Pan and Roaring Fork, and to take their flow and desecrate that wilderness area with canals and tunnels is a crime against nature and the people of the United States.

The expense is prohibitive and without excuse, and it is very doubtful that the money involved will ever be repaid to the Treasury because of the serious loss in interest on the government bonds that would be sold to finance the project. Interest on reclamation works is chargeable to the taxpayer. If the objectives were sound, the expenses might be justified but this is not the case. It is to put water on a section of marginal lands in the dust bowl to increase agricultural surpluses which are already burdening the nation. This legislation should not become law under any circumstances.

ROGER L. DIXON

R. L. DIXON & BRO., INC.
DALLAS, TEX.

"Better order two cheeseburgers and a dozen roses"



Downstairs, the night shift is beginning to clock in. Up here, the boss will be working late again. Maybe those flowers will give his wife something to look at besides television.

Almost every night it's the same story at this small but growing company. Too much work in some departments, not enough in others. Between overtime and idle time, the boss gets to bed pretty late — and then the profit picture keeps him awake.

Too bad he doesn't know about the Keysort Plant Control Plan. With weekly PCP work-load summaries, he could see *in advance* which departments are due to be

overloaded . . . which will be slack. Thus he could add extra shifts, arrange transfers or lay-offs *in time*. Result: tighter scheduling, smoother production flow, a shorter production cycle — and a lot less night work for the head man.

With just five fast, accurate Keysort PCP reports—1 daily, 2 weekly, 2 monthly—you can obtain complete modern management control of your business and your profits. At remarkably low cost.

The nearby McBee man has a presentation which will show you how it's done. Phone him, or write us for illustrated folder containing an example of each report.

McBEE



KEYSORT

Punched-card accounting for any business

Manufactured exclusively by The McBee Company, Athens, Ohio • Division of Royal McBee Corporation
Offices in principal cities • In Canada: The McBee Company, Ltd., 179 Bartley Drive, Toronto 16, Ontario

Another Goodyear First:

V-Belts *with the* **Green Seal**



stay matched from factory to drive

The Green Seal signifies true dimensional stability. It means that now when you reach for a matched set of V-belts, you can be sure they're matched — no matter how long they've lain on the shelf. And that means longer life and a minimum of down time.

It used to be that only steel-cable V-belts by Goodyear were length stabilized. But now, through the miracle of Triple-Tempering, they've been joined by all the other Goodyear Industrial V-belts.

Triple-Tempering is the exclusive process wherein synthetic cord is carefully brought to the peak of strength and stability by controlled tempering with Tension, Temperature and Time. And this gives you not only *length* stability in storage, but greater

shock- and stretch-resistance on the drive.

In addition to 3-T load-carrying members, the Green Seal also brings you "balanced construction." This means each component of the belt is specifically designed to its job to give you cleaner, smoother, longer running which adds up to maximum, trouble-free horsepower hours at minimum cost.

The next time you need V-belts, be sure they're wearing the Green Seal—the mark of a V-belt made with the technical know-how of the world's largest rubber company. They're readily available at your Goodyear Distributor. Or write for details to Goodyear, Industrial Products Division, Lincoln 2, Nebraska, or Akron 16, Ohio.

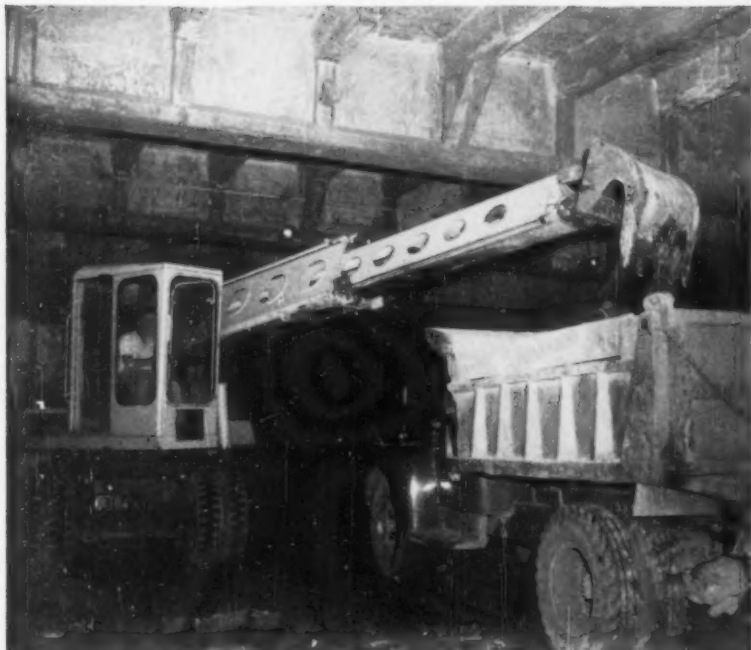
DIMENSIONALLY STABLE V-BELTS by

GOOD YEAR

THE GREATEST NAME IN RUBBER

Green Seal—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

Gradall builds \$2,000,000 business for Arnolt Brothers



Gradall's ability to work under low ceilings is made use of in this ripping of Belgium Block paving from an approach to New York's Holland Tunnel.



Gradall economically spreads an even 3-inch layer of slag on an oil refinery's storage tank fire wall.



Gradall digs for a pipe run in one of the country's largest refineries. Its telescoping boom enables the operator to easily reach in under pipe bent.

"Our diversified contracts require equipment that can handle many different types of work. Multi-purpose Gradalls perform well on any project—and pay for themselves in 18 months or less", reports President Fred Arnolt, Jr.

Four years ago, when the principals of this small but progressive dirt-moving organization decided to diversify their activities in order to prosper and grow, equipment selection became an important item.

A magazine advertisement for the multi-purpose Gradall gave them the idea of building their equipment fleet around one machine. As Vice President Marty Jessen tells the story, "The ad claimed that this machine would do 'a dozen' jobs. That was right up our alley. We took the gamble and it has paid off for us—time and time again."

In addition to its contracting business, Arnolt also rents equipment to other contractors. Most of these rentals have been from their fleet of 10 Gradalls. That's because users everywhere know of the machine's extreme versatility and ability to handle such a wide variety of work.

This year Arnolt's business in both the building and utility fields will total over \$2,000,000—and prospects look even better for 1957. Secret of their substantial growth can be attributed to the use of multi-purpose, mobile equipment—like the Gradall.

Gradalls do all these jobs for Arnolt Brothers, Inc.

- Highway subgrade excavation
- Ditch cleaning
- Pipe placing
- Trench excavation
- Materials handling
- Pavement removal
- Frost breaking, for pipeline or trench
- Fine grading and slope dressing
- Backfilling
- Fire-bank construction
- Crane work and other lifting
- Pipe stringing
- Ditching
- Sheetpile driving

© Reg. U. S. Pat. Off.



CRAWLER-MOUNTED GRADALL

SELF-PROPELLED GRADALL

RAILROAD GRADALL

Gradall®

DIVISION OF

Distributors in over 75 principal cities in the United States and Canada



YOU CAN DO IT BETTER, FASTER, FOR LESS WITH A GRADALL

FROM SALK VACCINE TO KILOWATTS!



VIRUS visible only through a microscope are concentrated by a De Laval Hermetic Clarifier! . . . a vital step in Salk Vaccine processing.

15,000 KW. GAS TURBINE at Rutland Plant of Vermont PSC can burn low cost, heavy residual fuel . . . because a De Laval "Nozzle-Matic" purifies it—saves \$60 an hour!

No matter what your product . . . if you are battling production bottlenecks . . . costly stop-and-go problems . . . need a new angle to solve any processing problem . . . ask De Laval for the solution! Because De Laval Centrifugals and Plate Heat Exchangers lick the toughest production jobs . . . can *continuously* separate, clarify, concentrate, pasteurize, purify, dry, or standardize almost anything! Here are just a few success stories that prove De Laval cuts time, labor, cost . . . improves product quality and profits! Get all the facts . . . write now!



SAVES THOUSANDS OF DOLLARS!

In Detroit, oil for new car motors being block tested is purified by De Laval.



INSURES PRODUCT PERFECTION!

A vital part of the perfect instant coffee process is clarification by De Laval.



GUARANTEES PERFORMANCE!

Naval and commercial ships use lubricating and fuel oils purified by De Laval.



DE LAVAL
SEPARATOR COMPANY

THE DE LAVAL SEPARATOR COMPANY, Poughkeepsie, New York • 427 Randolph St., Chicago 6
DE LAVAL PACIFIC CO., 201 E. Millbrae Ave., Millbrae, Calif.



Patented LYON Clip and Stud Design provides fast, easy assembly and adjustment without use of tools!

"LYON QUALITY DESIGN makes THE DIFFERENCE!"

STEEL SHELVING, for example. At a glance, all steel shelving may look very much alike but there's a world of difference—in ease of assembly, adjustability, rigidity and durability. That's why you should check Lyon before you buy.

This same quality design makes the difference in every one of the more than 1500 standard Lyon items, a few of which are shown below.

CALL YOUR LYON DEALER. He offers the world's most diversified line of steel equipment. Equally important, he can show you how to get the most for your money in terms of saved time and space.

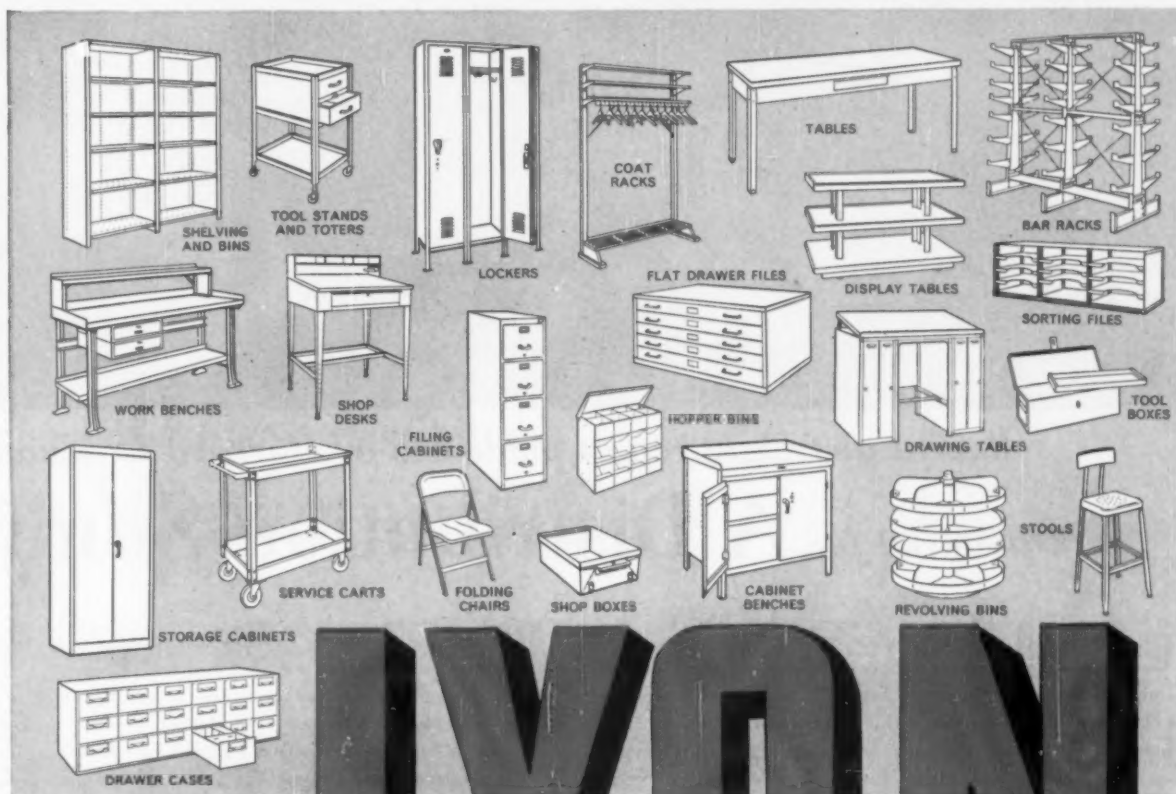
We can manufacture special items to your specifications.

LYON METAL PRODUCTS, INC.

General Offices: 510 Monroe Ave., Aurora, Ill.

Factories in Aurora, Ill. and York, Pa.

Dealers and Branches in All Principal Cities



**OVER 1500 ITEMS
for Business,
Industry,
Institutions**

LYON

STEEL EQUIPMENT

®



Recent airfreight report published by Harvard Graduate
the need for **A Distribution Study**

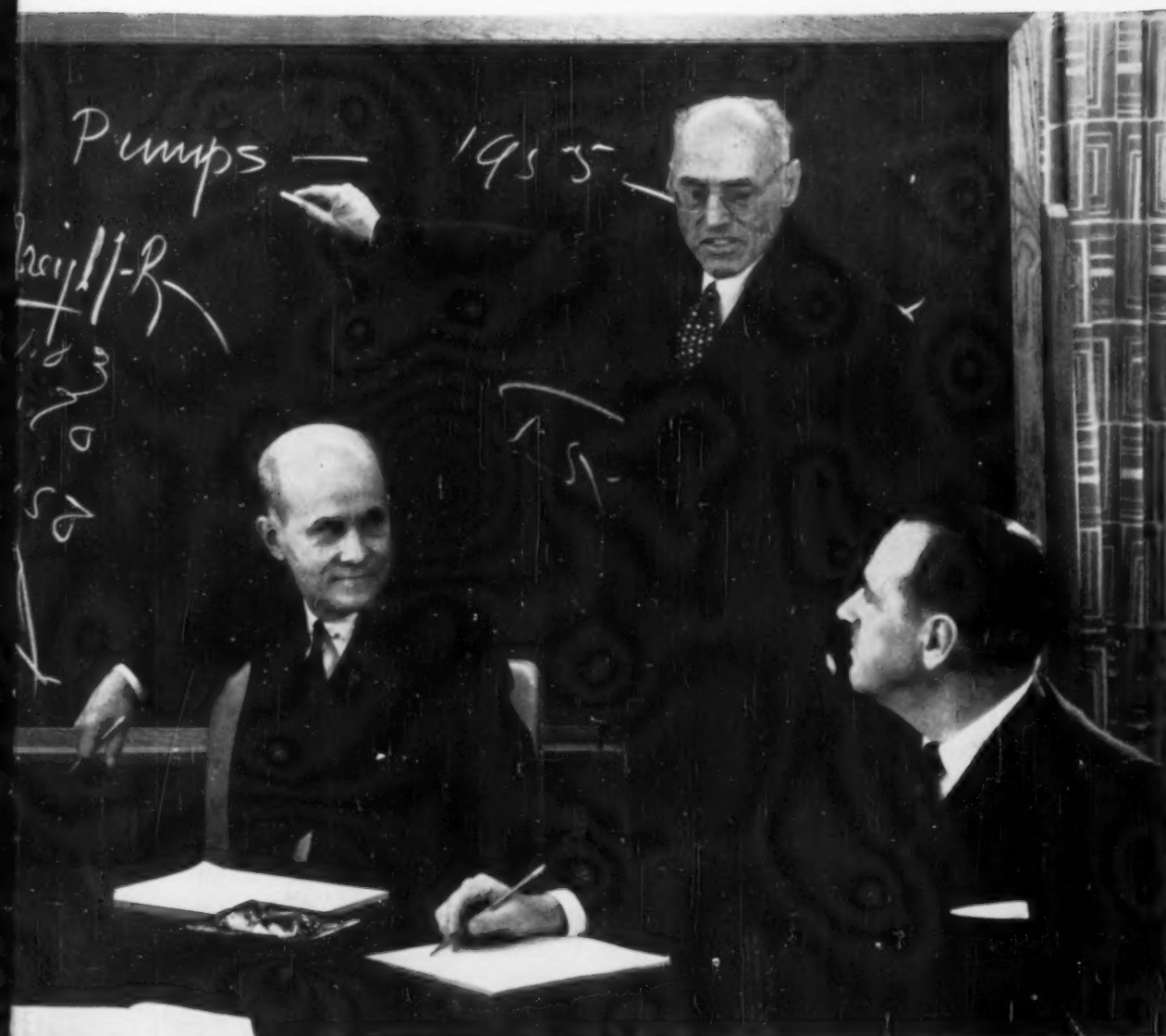
THE impact of airfreight upon modern business is the subject of an extensive report published by the Harvard Graduate School of Business. Titled "The Role of Airfreight in Physical Distribution," this three-year study by Dr. Howard T. Lewis, Professor of Marketing of Harvard Business School, and Dean James W. Culliton of Notre Dame develops the following conclusions for businessmen:

"The ultimate purpose of transportation should be to reduce the expenses of production and distribution."

"No generalizations can be made about the amount of savings possible. Each company must answer this question for itself after a thorough analysis of its peculiar conditions."

"The decision to use airfreight is almost always made by top management."

At blackboard, Dr. Howard T. Lewis, Professor of Marketing at Harvard, discusses distribution by air with the Regional Sales Vice-Presidents of American Airlines.



School of Business emphasizes **by Management**



These salient points are the platform on which American Airlines bases its Distribution Consultant Service for Management. We know by experience with many outstanding companies like the Burroughs Corporation and Armour Laboratories that shipments by air can increase sales and lower costs of handling, finance, packing, inventory and warehousing. Usually, however, these benefits were un-

covered only after a thorough study had been made by experts of a company's product and distributive patterns.

If you would like to use American Airlines' Distribution Consultant Service to determine whether the benefits of this modern transportation can be applied to your business, write to: Mr. S. C. Dunlap, Vice President—Cargo, American Airlines, Inc., 100 Park Avenue, New York 17, New York.

AMERICAN AIRLINES AIRFREIGHT

a faster way to ship . . . a better way to do business

Ideal working weather with UniTrane



TRANE...SKILLED IN
ALL 4 RELATED

FIELDS OF AIR CONDITIONING

This TRANE Self-Contained Air Conditioner packs top cooling comfort into a trim, slim, *quiet* package. It's the ideal unit for cooling stores, shops and offices!



HEATING

TRANE Convectors heat hallways, long window runs in schools, homes, offices and factories. Aluminum-copper heating element provides gentle, even warmth.



the year around air conditioning!

*Summer or winter . . . just touch the dial for
clean, filtered air at the temperature you want*

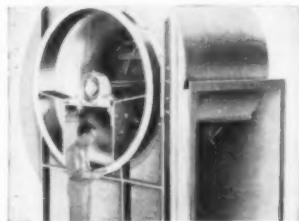
Here's working weather for multi-room, multi-story buildings of every size and type! Not just cooling, not just heating—but a tailored-to-order temperature for every season of the year. It's UniTrane air conditioning, with individual control of room units to give each occupant the climate he wants . . . and give management close control of costs.

And no matter what your air conditioning requirements are, there's matched TRANE equipment to do the job. Whether you are planning air conditioning for a new office building, apartment or hotel—or for your present building—it will pay

you to turn to TRANE! The TRANE line is so complete, so versatile, you can have the type of system that's exactly right for your building . . . for your budget.

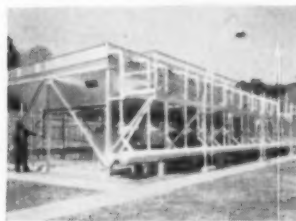
Every day, in widely divergent fields, TRANE equipment is changing climates to order—air conditioning buses and trains, ships and planes, giant office buildings and modest corner stores. TRANE equipment heats and cools factories and schools, hotels and homes—serves everywhere that you find air. For human comfort or industrial processing—for *any air condition*—turn to TRANE. See your nearest TRANE Sales Office or write TRANE, LaCrosse, Wis.

◀ **Dial the climate you want!** This UniTrane individual room air conditioner gives each occupant custom comfort, with built-in cost control. One or more of these fan-coil units may be shut off without upsetting the balance of the system. There are UniTrane models—including induction type units—for any multi-room, multi-story building . . . for any air conditioning system. Chilled water for summer cooling is supplied by the famous TRANE CenTraVac water chiller—the industry's *first* hermetic centrifugal compressor.



VENTILATING

TRANE Fans are precision engineered, electronically balanced. Giant Class III Fan, above, delivers large volume of air for air conditioning or process applications.



HEAT TRANSFER

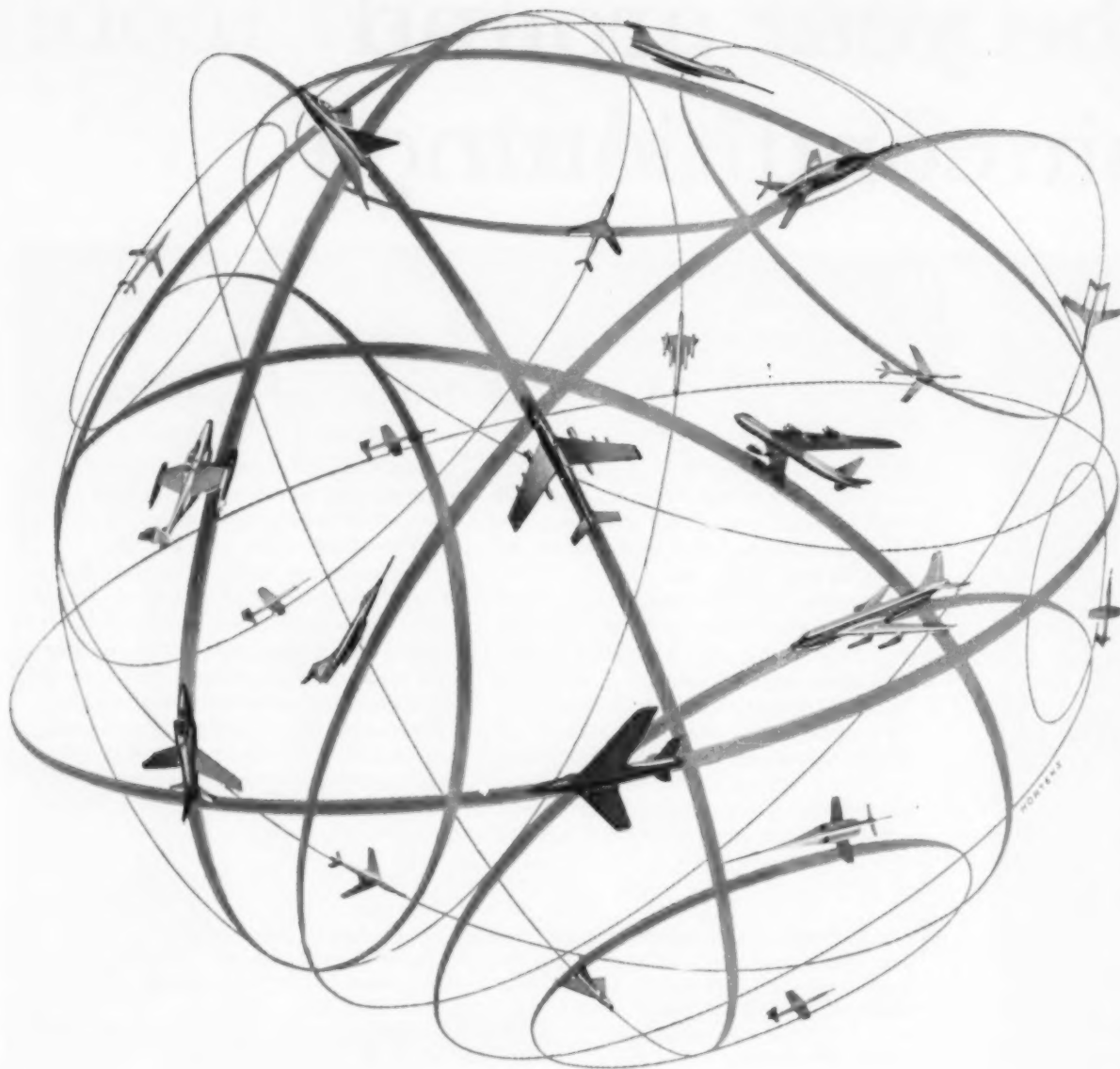
TRANE Fluid Coolers serve oil, gas and chemical industries . . . cool engines and lubricating oil for a wide variety of applications. TRANE equipment serves everywhere!

For any air condition, turn to

TRANE

**MANUFACTURING ENGINEERS OF AIR
CONDITIONING, HEATING, VENTILATING
AND HEAT TRANSFER EQUIPMENT**

THE TRANE COMPANY, LACROSSE, WIS. • EASTERN RFG. DIV., SCRANTON, PA.
TRANE COMPANY OF CANADA, LTD., TORONTO-90 U.S. AND 18 CANADIAN OFFICES



IN THE WORLD OF EIGHT-MILES-UP:

there's no ceiling — on miracles!

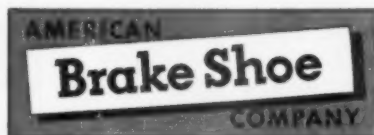
Man's ingenuity has known no ceiling—from Kitty Hawk to outer space. We fly into the eye of hurricanes. Streak through the sound barrier. Send rockets roaring. And mount cannons in the clouds.

The daily miracle of flight is very much down to earth—to Brake Shoe. It has to be. Brake Shoe makes the parts that take the punishment. Motor nozzles for hot Terrier rockets. High-

strength aluminum castings for mechanisms in the plane's anatomy that take a beating. Tough steel forgings for the "innards" of whirly-birds. Hydraulic pumps to supply fluid power that performs from take-off to touch-down. Brake linings that must soak up the wham of a heavy bomber, absorb tremendous heat and pressure, bring 25 tons to a safe stop.

The sky's full of tough requirements.

The sky's full of component parts built for punishment—by Brake Shoe. American Brake Shoe Company, 230 Park Avenue, New York 17, N. Y.



vital parts for the worlds of industry: AMERICAN BRAKEBLOK DIVISION • AMFORGE DIVISION • AMERICAN MANGANESE STEEL DIVISION • DENISON ENGINEERING DIVISION • ELECTRO-ALLOYS DIVISION • ENGINEERED CASTINGS DIVISION • KELLOGG DIVISION • NATIONAL BEARING DIVISION • RAILROAD PRODUCTS DIVISION • DOMINION BRAKE SHOE COMPANY

James A. Bourke, Division C

a metal fabricator's banker

Jim Bourke, of The First National Bank of Chicago, deals in facts and figures. Recently, to a friend who assumed that we loaned money only to "big business," he said:

"A 1956 survey of Division C (which loans to metal fabricators) showed 40% of its new loans were in amounts of \$25,000 or less; 67% in amounts less than \$100,000." Mr. Bourke proved his point.

In 34 years here, 11 as a loaning officer, he's learned that growth figures are good signs of a firm's future.

For instance, in 1949, a small company making breadboxes came to him for a \$15,000 loan. He knew the metal fabricating business. He studied production problems and the company books. Both pointed to expansion.

So he approved the loan—and many subsequent ones. Today the firm is a major producer in its industry. And from breadboxes it has graduated to production of complete steel kitchens.

Jim Bourke is typical of the loaning officers who staff each of our 10 Divisions. Each deals only with one group of industries which he studies constantly.

At The First we're interested in industry of every size. The growth of our bank has been due largely to making loans to small enterprises which, in turn, have grown.

One of our Divisions understands *your* business. Why not talk your situation over with a man from The First? He speaks your business language.

The First National Bank of Chicago



Building with Chicago since 1863

MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION





*When your
story must be
descriptive—
Photography
does the job*

Here are some of the ways Photography helps build sales

Plans and Presentations—Slide films—
Movies—Easel presentations—Portfolios.

Advertisements—Illustrations for
magazines—Newspapers—Direct Mail—
Sales and service literature—Calendars
—Car cards—Billboards.

Market Research—Product application
photos—Customers' buying habits—
Displays—Merchandising ideas—
Photocopying charts and reports.

Packaging—Product pictures—Labels—
"How to" explanations—Photo lettering
—Photo composition.

Merchandising—Displays—Background
photos—Jumbo cutouts—Installation or
application photos—Demonstrations.

Television Production—Set backgrounds
—Spot commercials—Animation.

Trade Shows—Background murals—
Motion pictures—Slide films—Descriptive
booklets and pamphlets—Plant and product
photos.

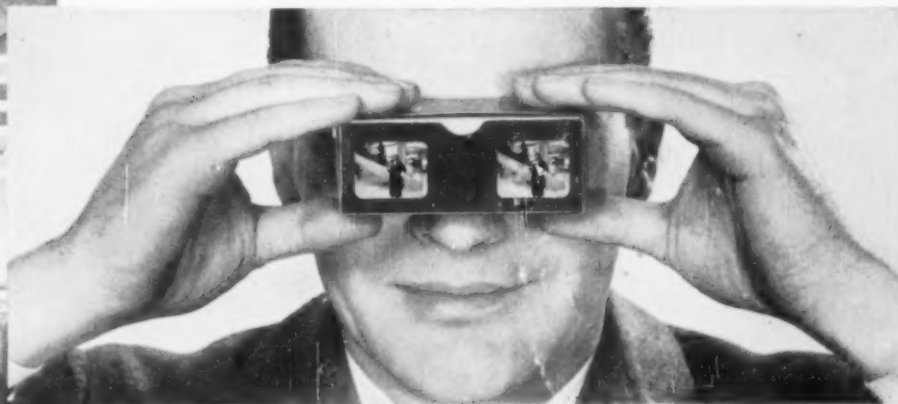
Sales Training and Service—Salesmen's
portfolios and bulletins—Stills—Slides—
Movies—Installation and service manuals
—Customers' instruction books.

Printed Production—Illustrations—
Transparencies—Photoengraving
—Photocopying.

Public Relations—Stockholder notices—
Employee papers—Institutional movies—
House organs—News releases—Slide films.

Administration—Office layout plans—
Progress reports—Office copying—
Microfilming of records for storing—
Miniature prints of ads for schedule boards.

Stores, Lounges and Coffee Shops fit in a Salesman's case



Design Inc. sells highly specialized services with photography—uses 3-D color slides to show how their work has paid off.

Design Inc. of St. Louis, Mo., turns empty space into high-profit, low-maintenance areas for hotels, motels, and restaurants. The work they've done and the people they hope to sell, stretch across the country. And buyers like to be *shown*.

So the answer is photography—especially three-dimension photographs in color. Every representative carries a collection of slides showing outstanding projects. In addition, anyone interested can send for picture samples. It's like taking a trip and seeing the places themselves.

Doing hard sales jobs is just one of the ways photography works for sales and merchandising. Some others are listed at the left. Check them over. You'll find that all along the line, photography can save you time, cut costs—and give you a fine-looking, convincing job.



Would you like our booklet "Photography in Marketing"? It's free—just drop-a line to Eastman Kodak Co., Rochester 4, N.Y.

EASTMAN KODAK COMPANY
Rochester 4, N. Y.

Kodak
TRADE MARK



In on-the-spot comparison test at Borden's plant:

BORDEN FOOD PRODUCTS CO. HEAD PROVES NEW LILY CHINA-COTE CUP SAVES THE FLAVOR OF COFFEE SERVED IN YOUR PLANT!

Before the camera is Willis H. Gurley, President of Borden Food Products Co., photographed while sampling Borden's superb Instant Coffee as served in the Lily* China-Cote Cup.

Here's what this noted connoisseur says: "Coffee as it should be. A remarkable cup. No loss of flavor, taste or enjoyment. Retains the heat!" Conclusive proof that the Lily China-Cote Cup . . .

Saves the flavor! Resists penetration of coffee into the paper.

Saves the heat! Keeps hot liquids 10° hotter in a ten-minute period.

Saves the shape! Remains sturdy in the hand, even under rough and rugged use.



Specify Lily China-Cote, the cup that saves the flavor.
* U. S. REG. U. S. PAT. OFF.

A plastic inner coating, strikingly similar to real china (and ten years in the developing) is the secret of this first truly satisfactory cup for the serving of coffee, tea, soup and other hot liquids.

No wonder the Lily China-Cote Cup is the most wanted cup among progressive executives concerned with employee morale. No wonder a growing number are conferring with their in-plant feeders and vending operators or writing us direct for China-Cote details. Many are making a *personal* comparison test . . . without obligation. We'll send test samples if you'll send us a note. *Lily-Tulip Cup Corporation, 122 East 42nd St., New York 17, N.Y.*



CHRIST OF THE ANDES

New star beneath the southern cross



Soon South America will look up to the new Fairchild F-27 transport already ordered by South American airlines.

This exciting new propjetliner promises to become as popular in the Southern Hemisphere as it is in the North American continent. Its special qualities make it ideal for regional airlines, and a valuable addition to corporate aircraft fleets as well.

The F-27 is fast—cruises at 280 mph on the power of airline-proven propjet engines. The cabin is pressurized to permit flight over Andes peaks and Pampas plains with equal ease. Small field performance puts most back-country strips within easy F-27 reach.

Tops in versatility, high on performance, the F-27 is low in cost—it's inexpensive to fly, to maintain, to buy.

Address inquiries to: R. James Pfeiffer, Executive Director of Customer Relations, Fairchild Engine & Airplane Corporation, Hagerstown 15, Maryland.



THE FINEST AIRCRAFT FOR AIRLINES,

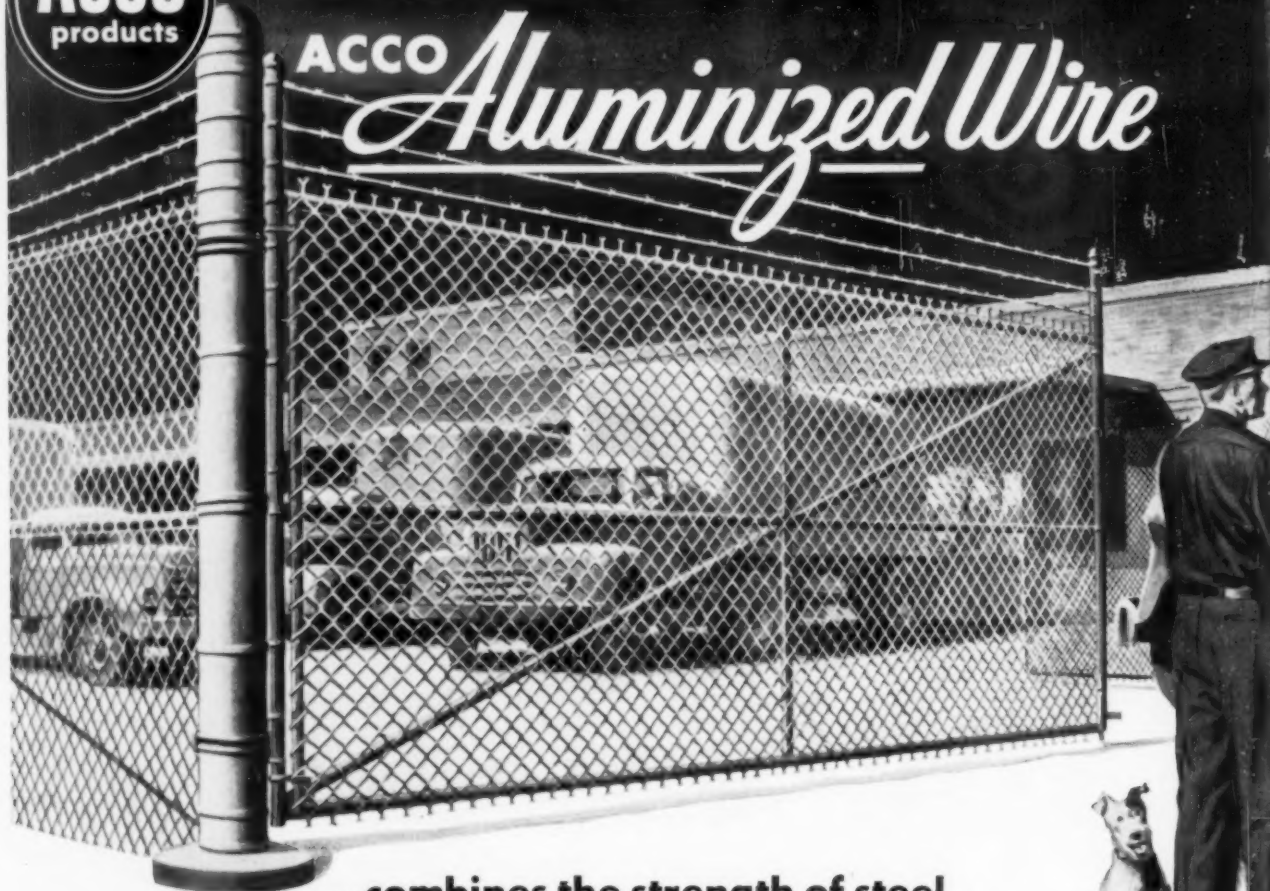
CORPORATIONS AND MILITARY SERVICES.

ACCO
products

It's NEW! NEW!...

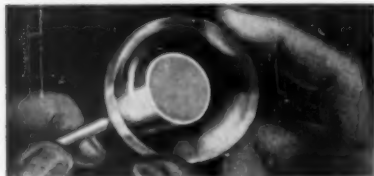
ACCO

Aluminized Wire



... combines the strength of steel
with the corrosion resistance of aluminum

• Here's important, money-saving news for all users of steel wire and wire products! From ACCO's Page Steel and Wire Division has come a great new wire—ACCO ALUMINIZED—which is the successful culmination of years of research and development of a wire providing the strength and other desirable properties of steel plus the high corrosion resistance of aluminum.



By a new hot-dip process, covered by U.S. and foreign patents, a coating of commercially pure aluminum is bonded to the iron or steel wire. This coating provides long-lasting protection against corrosion in ex-

posure to normal atmospheric conditions.

Outlasts Galvanized Wire

Salt spray tests conducted in accordance with ASTM procedures show that, for equal thickness of coating, aluminized wire outlasts galvanized wire by more than 2 to 1.

Aluminum's unique properties establish its proved superiority, as a coating, over the zinc used in ordinary galvanizing. ACCO ALUMINIZED Wire offers a high degree of ductility and adherence of the aluminum coating.

With all the many advantages of ACCO ALUMINIZED Wire, its price is comparable and competitive with that of wire with galvanizing of equal thickness. Actually, it saves you money by making your wire dollar go farther. And—it is made and backed by an organization of broadest skill and experience in the

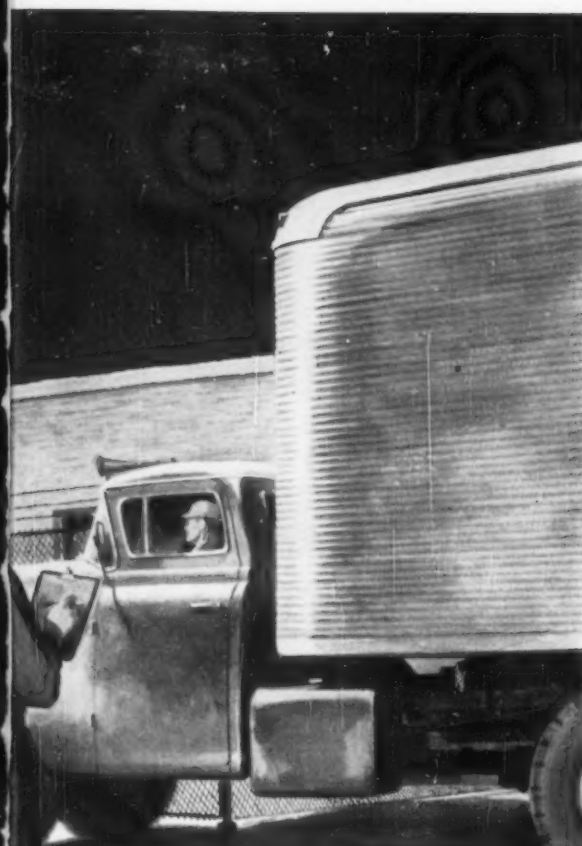
art of wire-making for widely diversified uses.

Many Potential Uses

Our Page Steel and Wire Division is already producing the following items, among others—Strand for Guy Wire, Ground Wire, and Messenger Wire purposes; ACSR Core Wire; Telephone Wire; Chain Link Fence; Barbed Wire.

Expansion into other fields of uses is anticipated for those applications where the strength of steel complemented by a protective coating of aluminum is expedient, including high temperature applications. A co-operative development program is at your service.

Our new Folder DH537-A contains a wealth of interesting information on ACCO ALUMINIZED Wire—its unique properties, its many practical and economical uses, etc. Write for a copy today.



PAGE ALUMINIZED CHAIN LINK FENCE

When you safeguard your property—industrial, institutional or residential—with the new Page ALUMINIZED Chain Link Fence you get better, longer-lasting protection at a substantial long-range saving! This remarkable new fence fabric has all the strength of steel plus the weathering resistance of its protective coating of aluminum. Yet, with all its obvious advantages, Page ALUMINIZED Chain Link Fence costs no more to buy and install than galvanized fence!

For information on any ACCO product,
address Market Development Department, American Chain & Cable Company, Inc.,
929 Connecticut Avenue, Bridgeport, Connecticut

Why Acco products mean better values

Our research, designing and manufacturing facilities are devoted to making Acco products "intentionally better" in on-job performance. Year after year, reorders from our customers attest Acco's Better Values.

Below is a list of major Acco products and Acco Divisions

ABRASIVE CUTTING WHEELS

Rubber and Resinoid Bonded

ALLISON DIVISION

BOLTS and NUTS • Lag Screws and Forgings

THE MARYLAND BOLT and NUT COMPANY

CASTINGS

Electric Furnace Steel and Iron • Malleable Castings

ACCO STEEL CASTING DIVISION

ACCO MALLEABLE CASTING DIVISION

CHAIN

Weed Tire Chains • Acco Registered Sling Chains

Welded and Weldless Chain and Attachments

AMERICAN CHAIN DIVISION

CUT-OFF MACHINES

Abrasive Cut-Off Machines • Nibbling Machines

CAMPBELL MACHINE DIVISION

CONTROLS

Tru-Lay Push-Pull Controls • Brake Controls

Aircraft Cable • Tru-Stop Brakes for Trucks and Buses

AUTOMOTIVE and AIRCRAFT DIVISION

GAGES • Pressure, Vacuum and Compound

HELICOID GAGE DIVISION

HARDNESS TESTERS • "Rockwell" and TUKON

WILSON MECHANICAL INSTRUMENT DIVISION

HOISTS and CRANES

Wright Chain Hoists • Electric Hoists • Cranes

WEIGHT HOIST DIVISION

Ford Chain Hoists • Electric Hoists • Trolleys

FORD CHAIN BLOCK DIVISION

INSTRUMENTS

Automatic Control, Recording, Indicating and

Telemetering Instruments • Socket Screws

THE BRISTOL COMPANY

LAWN MOWERS

Rotary and Reel-type Power Mowers • Hand Mowers

PENNSYLVANIA LAWN MOWER DIVISION

VALVES • Bronze, Electric Furnace Iron and Cast Steel

R-PAC VALVE DIVISION

WIRE, FENCE, WELDING WIRE

Manufacturers Wire • Shaped Wire

Chain Link Fence • Welding Wire

PAGE STEEL and WIRE DIVISION

WIRE ROPE

Tru-Lay VHS Preformed Wire Rope • Tru-Loc Assemblies

Acco Registered Wire Rope Slings

AMERICAN CABLE DIVISION

Lay-Set VHS Preformed Wire Rope • Tru-Loc Assemblies

Acco Registered Wire Rope Slings

HAZARD WIRE ROPE DIVISION

IN CANADA: DOMINION CHAIN COMPANY, LIMITED

Niagara Falls, Ontario

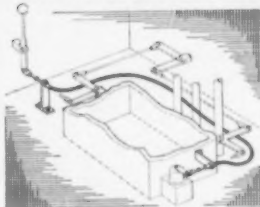
THE BRISTOL COMPANY OF CANADA LIMITED

Toronto, Ontario

IN ENGLAND: BRITISH WIRE PRODUCTS, LIMITED

THE PARSONS CHAIN COMPANY, LIMITED

BELOW ARE ILLUSTRATED A FEW OF THE MANY OTHER ACCO PRODUCTS



TRU-LAY PUSH-PULLS

...simplify design and improve construction by eliminating links and levers. Solid as a rod, yet flexible as wire rope.



PENNSYLVANIA LAWN MOWERS

The PENNSYLVANIA line—famous for performance since 1877—includes efficient power mowers and easy-running, smooth-cutting hand mowers.



CAMPBELL ABRASIVE CUTTERS

A complete line of highest quality machines for dry, wet or submerged abrasive cut-off. Machine capacities to 8" solid squares.



ACCOLOY X-WELD 125 CHAIN

...identifies itself by its "king-size" welding areas, which provide unequalled strength at the welds. Non-kinking; always hangs straight.



American Chain & Cable Company, Inc.

SALES OFFICES IN: Atlanta, Bridgeport, Conn., Boston, Chicago, Denver, Detroit, Exeter, Pa., Houston, Los Angeles, Monessen, Pa., New York, Philadelphia, Pittsburgh, Portland, Ore., Reading, Pa., San Francisco, Wichita, Kans., Wilkes-Barre, Pa., York, Pa.

**Better
Values**

Is this the answer to your product problem?

FACILITIES + SKILL FOR PROTECTING STEEL WITH GLASS

Now at your service

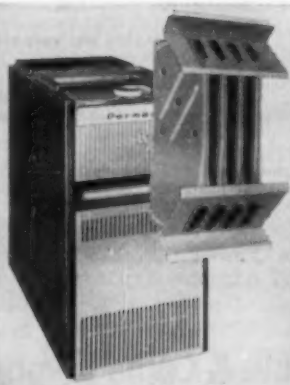
research and production resources of A. O. Smith
... world's largest manufacturer of glass-protected
steel products for home, farm and industry



For today's problem products or tomorrow's product problems — A. O. Smith glass-protected steel may be just what you need. Free folder details its many unique properties and broad service range. Write for it today!



PERMAGLAS water heaters . . . set new standards of life expectancy in tank linings.



PERMAGLAS home heating and cooling . . . ceramic-coated heat exchangers prevent oxidation and condensate corrosion.



HARVESTORES for farm feed processing . . . Permaglas mechanized storage structures, handling industrial bulk materials, turn losses to profits.



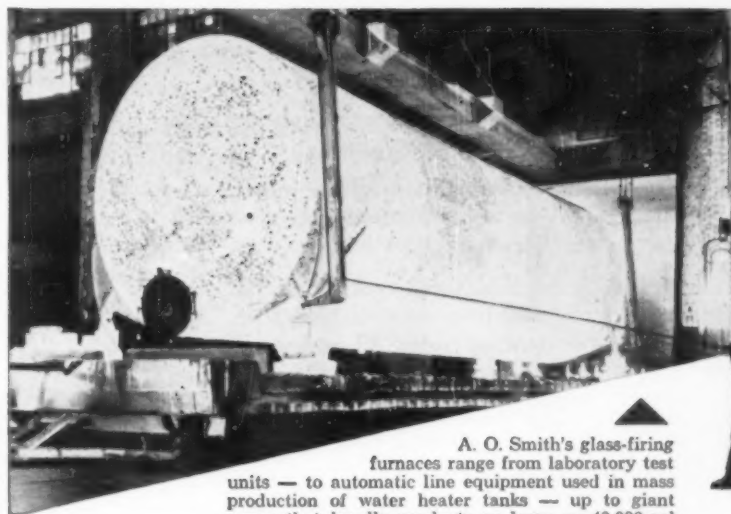
GLASCOTE subsidiary products for severe chemical processing service . . . defeat corrosion and contamination.



Each glass formula starts with the careful weighing of sands, clays and other specified ingredients. These are then thoroughly mixed and screened to uniform consistency.

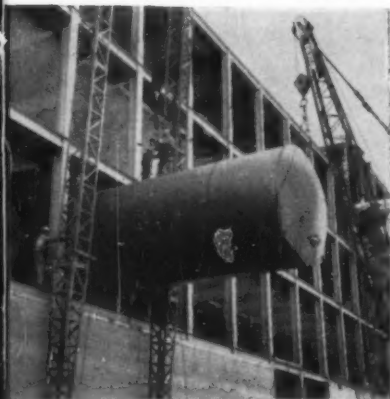


A special smelter liquifies the mixture at 2300° F. This molten "lava" is poured into cold water where it solidifies and shatters into glass particles called *frit*. (Not illustrated: *Frit* is ground with special clays and soft water in giant ball mills to produce a creamy liquid called *slip*. This is applied to steel surfaces that have been cleaned and etched to provide a perfect bonding texture).



A. O. Smith's glass-firing furnaces range from laboratory test units — to automatic line equipment used in mass production of water heater tanks — up to giant ovens that handle products as large as 40,000-gal storage tanks.

The actual fusing of glass to steel takes place in special furnaces super-heated to 1600° F. The bond is both physical and chemical . . . and the glass will not separate from the steel until the metal's yield point has been exceeded.



PERMAGLAS beer storage tanks . . . guard product flavor, purity and uniformity.

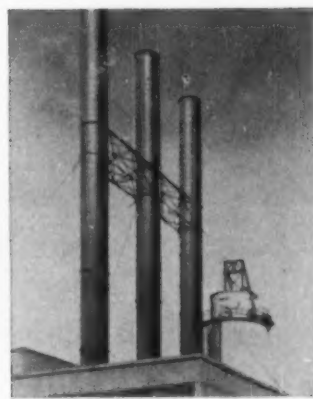
Through research  . . . a better way

A.O. Smith
CORPORATION

MILWAUKEE 1, WISCONSIN

12 plants in New Jersey, Pennsylvania, Ohio, Illinois, Wisconsin, Texas and California

International Division: Milwaukee 1, Wisconsin



PERMAGLAS smokestacks . . . answer industry's need for longer smokestack life . . . economically.



Automate

A STEP AT A TIME

The pot of gold at the end of the automation rainbow seems far beyond the reach of many a manufacturer when he thinks of the capital investment required to build an automatic factory.

But he can take it step by step with minimum capital investment, and without loss of time.

Most of the needs of automation can be met by the application of simple control mechanisms coupled with a measure of ingenuity.

The Bellows Co. manufactures control mechanisms to turn standard machines and machine tools into high production automatic units. When desired, we'll even furnish the measure of ingenuity!

Phone your local Bellows Field Engineer, ask him to sit down with your production men. No cost. No obligation. Automate step by step.

Take this step, first-

Write for a copy of Bulletin ML-3. In its pages are ideas you can quickly put to use. No cost. No obligation. Address Dept. BW-357, The Bellows Co., Akron 9, Ohio. In Canada, Bellows Pneumatic Devices of Canada, Ltd., Toronto, Ont.



Over 125 technically trained Bellows Field Engineers in the United States and Canada are at your service.

The Bellows Co.
AKRON 9, OHIO

MANUFACTURERS OF CONTROLLED-AIR-POWER DEVICES FOR
FASTER, SAFER, BETTER AND LOWER-COST PRODUCTION

**IF THE
TRUTH MUST
BE TOLD**

... by a spring

This spring, the dependable heart of a leading make of air pressure gauge, must "tell the truth" years on end. But at first there were tough problems . . . and eventually the manufacturer turned to the Worcester Wire Works Division of National-Standard for a *special spring wire* that would solve them . . .

Look how the spring has a double pitch to properly take and indicate a wide range of pressure loads. Obviously, extreme accuracy, exceptional uniformity, and exact behavior are absolute musts. Rejects were running up to 50 per cent!

That is, until Worcester Wire Works studied the requirements, did developmental work, came up with a specially prepared spring wire and so solved the problems!

Like the other National-Standard divisions, Worcester Wire Works features unusual service that helps other manufacturers turn out better products at lower cost. Try us. You'll see.



NATIONAL



STANDARD

DIVISIONS: NATIONAL - STANDARD, Niles, Mich.; fire wire, stainless, music spring and plated wires • WORCESTER WIRE WORKS, Worcester, Mass.; music spring, stainless and plated wires, high and low carbon specialties
WAGNER LITHO MACHINERY, Secaucus, N. J.; metal decorating equipment • ATHENIA STEEL, Chilton, N. J.; flat, high carbon spring steels • REYNOLDS WIRE, Dixon, Ill.; industrial wire cloth



“Here’s a hot one for the slitters

**60,000 lbs. of slit coils...
delivered early tomorrow!”**

REPORT TO MANAGEMENT:

An actual example of how Ryerson is geared to meet emergencies on steel of every kind.

It was ten after five. The phone rang and a steel buyer 80 miles away said: “I’ve simply got to have 60,000 lbs. of slit coils first thing in the morning.” Impossible?

Not at Ryerson. This kind of service is what Ryerson customers have learned to count on when emergencies arise.

The needed steel was on hand in Ryerson stocks. Unequalled slitting equipment was put to work. And during the night two different gauges of steel

coils were slit to meet two size requirements. Early next morning the steel was delivered *as promised* ... 80 miles away.

You don’t have to wait for an emergency to appreciate Ryerson service. Our stocks and processing facilities enable us to meet practically every demand for steel—no matter what the shape, size, quantity or time requirement.

In addition, you can always depend on Ryerson for steel of high uniform quality.

So call your nearby Ryerson plant for steel or help on steel problems with the assurance of close personal attention by specialists who make your problems their own.

In stock: Carbon, alloy and stainless steel—bars, structural, plates, sheet and strip, tubing, re-bars—industrial plastics, machinery & tools, etc.



RYERSON STEEL

JOSEPH T. RYERSON & SON, INC. PLANTS AT: NEW YORK • BOSTON • WALLINGFORD, CONN. • PHILADELPHIA • CHARLOTTE • CINCINNATI
CLEVELAND • DETROIT • PITTSBURGH • BUFFALO • CHICAGO • MILWAUKEE • ST. LOUIS • LOS ANGELES • SAN FRANCISCO • SPOKANE • SEATTLE

BUSINESS OUTLOOK

BUSINESS WEEK

MAY 4, 1957



April brought the 1957 business pattern into clearer focus.

A fair degree of stability through the summer months is indicated, followed by at least a moderate upturn in the fall.

But don't think that made April an outstanding month. It was neither much better nor much worse than other recent months, but at least it had the virtue of laying some ghosts.

In dissolving uncertainties that had blanketed business like a haze since January, April was helpful mainly in a negative way.

Last month showed us some things not to expect.

It may be that some were things we had no right to expect in the first place, but many of us had clung to them nevertheless.

April's negative lessons may be expressed in a series of don'ts:

- **Don't look for autos to lead a spring upswing.** Sales have not spurted and production has been pared below year-ago levels.
- **Don't expect the Federal Reserve to ease credit** any time soon.
- **Don't expect Congress to give housing a quick shot in the arm.** Action now can't spur building before fall (and probably would be unsound).
- **Don't look for any nearby switch to inventory accumulation.**

Manufacturing activity has been sustained to no small extent by big backlogs of orders that piled up during 1955 and 1956.

The high level of operations, meanwhile, has strengthened management's determination to **go ahead with expansion and modernization**. This accounts for the firming up of spending plans (BW—Apr.27'57,p41) in the face of declining new-order volume.

Employment and consumer income, in their turn, have benefited from both the steady level of factory output and the high rate of government spending. This will continue to bolster **retail sales**.

Thus, once again, we see "rolling readjustment" or "straight-line recession" (whatever you want to call it) in action.

Nobody is expecting big things from the auto industry any longer—not, at least, until the 1958 models are unveiled.

Even the coming of new models is viewed with mixed emotions. For '58, General Motors' cars will be the ones with the big changes. Then, presumably, GM will plug hard to regain the market share into which Chrysler and Ford have been cutting with 1957 models.

Prospects for the year, despite spreading pessimism, are that about 6-million new cars will be sold. That would be half a million short of advance estimates but just about the same as last year.

But what many people overlook is that **output** will exceed 6-million by 100,000 to 200,000—and top 1956 by 300,000 or more. (The difference between the two years lies in dealers' inventories.)

BUSINESS OUTLOOK (Continued)

BUSINESS WEEK

MAY 4, 1957

And it is car output—not retail sales—that uses the materials and creates the employment.

—●—
Inventory policy almost surely will be cued by auto output.

In other words, disappointing demand for cars started the switch in steel buying early this year. And no real pickup in this or other metals can be expected until Detroit again gets hungry for materials—an appetite that should manifest itself along about September.

But inventories' drag on business—the actual period of liquidation—will end sooner. We'll go on a replenishment basis during the summer.

Dollar value of inventory in the hands of manufacturers actually increased during the first quarter of this year. Most of the rise, though, undoubtedly was due to upward valuation reflecting price increases.

Physical volume, in other words, was being brought under control.

That there was no actual turn-around is easily explained: You just can't shut off deliveries of materials and parts all at once.

—●—
Many factories' main uneasiness now is caused by a simple fact: They have been turning out goods faster than new orders have come in.

This has happened each month so far this year.

It is comforting, of course, that most plants have big backlogs (and less pressure of orders gives them a chance to begin working into the pile). Yet an excess of shipments over orders always is disturbing.

Value of goods shipped by all factories in March is estimated by the Dept. of Commerce at \$30-billion.

Such sales have been exceeded but once (last October, by an eyelash).

The value of new orders booked is one of our weaker business indicators. The dollar totals in the first quarter fell appreciably from 1956's final three months (though well ahead of this time last year).

But it is when the figures are adjusted to iron out the seasonal variations that they look their worst. On that basis, there has been a steady decline since November. The April total, in fact, probably fell behind a year ago.

—●—
Stockpiling dominated the market for zinc this week, but in a way that was quite different from its influence in months past.

For a long time, government buying has been a strong prop under the price. But now conflicting statements are coming out of Washington about how long this is likely to continue.

The result was a sharply lower price in London while contracts calling for future deliveries in New York went to substantial discounts.

Discontinuance of stockpiling of both lead and zinc—but particularly the latter—long have seemed logical to metals experts. They insist that Uncle Sam's present holdings far exceed any logical need.

But some of the buying has represented metal taken abroad in trade for surplus farm products. This is popular in Congress.



She moved mountains to find radium...

It took tons of European pitchblende — and years of inspired labor — to yield the first *decigram* of this element. In 1921, recognizing the magnitude of Madame Curie's achievement, the American people gratefully subscribed \$120,000 to present her with a gram of the precious substance processed from Colorado carnotite ore.

Madame Curie made a special point of visiting the Colorado Plateau, whose ores had yielded her valuable gift...

for she was vitally interested in sources for this radioactive material which had already proved so important in cancer therapy.

Today, from these same Colorado Plateau carnotite ores, Vanadium Corporation of America produces the uranium used in the creation of isotopes vital to present-day cancer research and therapy. These radioactive substances, because of their new availability, make cancer treatment far less expensive. And

they have medical applications undreamed of by Madame Curie.

The American Cancer Society — supported by you and your neighbors — puts these materials to work in the crusade against cancer. Vanadium Corporation — one of America's leading producers of uranium — is proud of its part in this great humanitarian effort. You can help, too... by generously answering this year's American Cancer Society appeal!



Producers of alloys,
metals and chemicals

VANADIUM CORPORATION OF AMERICA

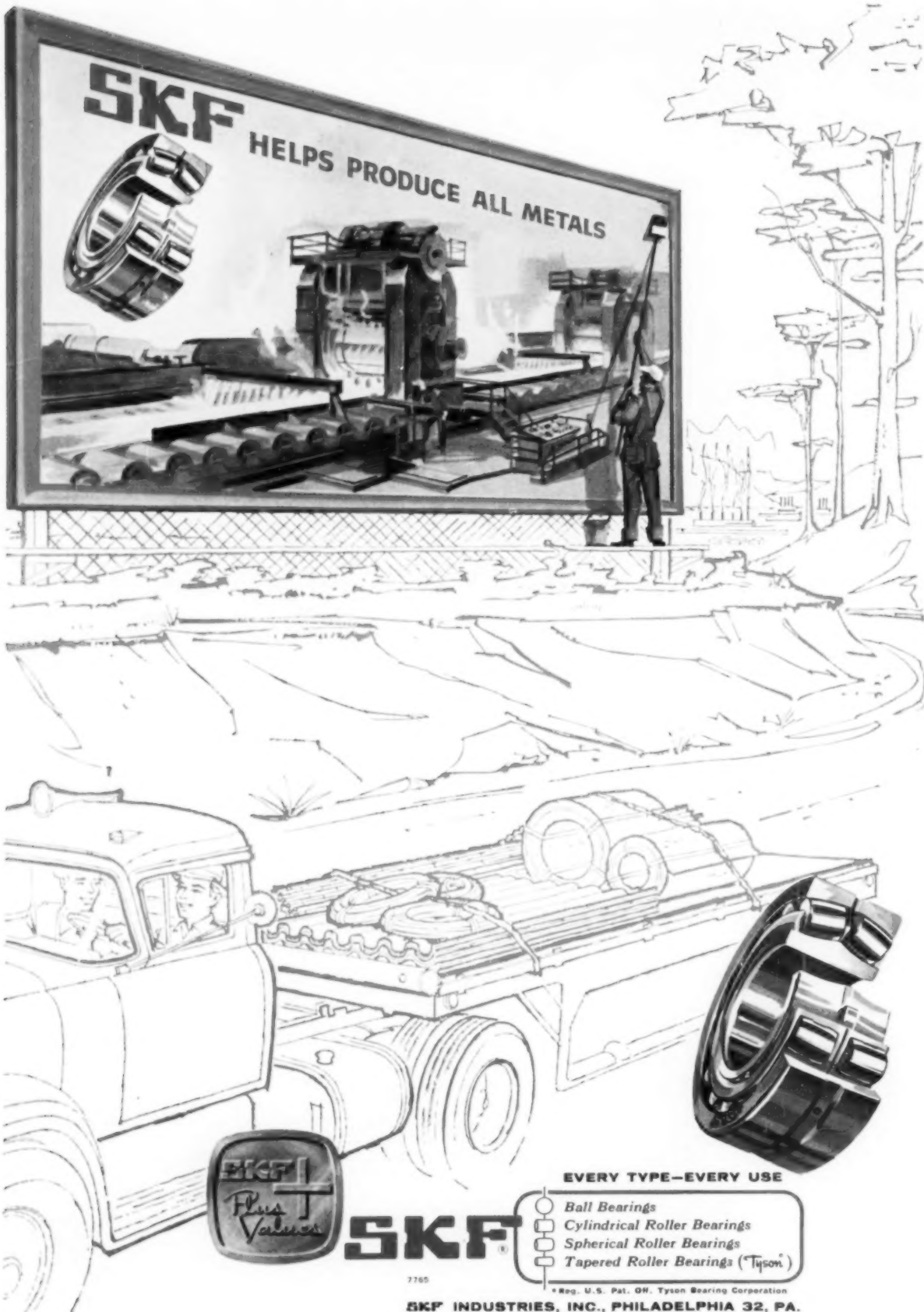
420 Lexington Avenue, New York 17, N. Y.

Pittsburgh • Chicago • Detroit • Cleveland

PLANTS—Niagara Falls, N. Y.; Graham, W. Va.; Cambridge, Ohio; Durango and Naturita, Colo.

RESEARCH CENTER—Cambridge, Ohio • MINES—South America, Southern and Northern Rhodesia, Canada, U.S.A.





SKF

HELPS PRODUCE ALL METALS

EVERY TYPE—EVERY USE

- Ball Bearings
- Cylindrical Roller Bearings
- Spherical Roller Bearings
- Tapered Roller Bearings (Tyson)

7765

Reg. U.S. Pat. Off. Tyson Bearing Corporation

SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.

Wall Street Refigures the Odds

Stock market takes heart as near-term business prospects improve.

But speculation also plays a part in stronger prices, with rumors rattling around.

EACH OF THE STOCKS in the table at the right was among the 15 most active on the New York Stock Exchange on one or more days last week. If the way their prices behaved puzzles you, don't conclude that you are missing the point. Stock price tabulations similar to it are puzzling many these days.

In the past month or so, the stock market has suddenly come to life—after tapering off to the lowest level of activity in years. In general, the tone of prices is firmer, volume of trading is higher, and the averages have recovered half of the ground they lost in late 1956 and early 1957. But even the bulls aren't whooping that a new boom is under way. Obviously, something is happening but it doesn't fit the standard picture of a bull or a bear market.

• **Shorter Range**—For an explanation, you can start with the generalization that the market is paying a good deal more heed to business conditions these days—conditions as they are in 1957 and may be in 1958 instead of evaluations based on some romantic projection. This accounts for:

• The comedown of a good many favorites from the highs of 1955's growth-guessing bull market.

• The comeback of sound stocks from lows that pictured 1957 profit prospects worse than they are.

Yet, without denying the validity of these two points it must be admitted there are other factors at work. Old heads in Wall Street agree that today's buyers are not all of them sane analysts; you still find tip-takers, and rumor-rampagers.

• **Rumor Rampages**—A lot of free-wheeling action in the February-April rally can be laid at the doors of these fast-buck boys. Gyration like those in Lukens Steel (page 40) and some of the less-well-known companies whose shares have starred—or marred—recent days (tabulation, right) have been exag-

Stocks That Made the Market

	Apr. 22	Apr. 23	Apr. 24	Apr. 25	Apr. 26	Close	Weeks Net Change
Alleghany Corp. . .	+ 3/4	+ 1/4	- 1/4			7 3/4	+ 3/4
Amer. Airlines . . .		+ 1/4				18 1/4	+ 3/8
Anaconda			- 1/8			66 3/8	-
Atchison			+ 5/8			25 1/4	+ 1 1/8
Beth. Steel	+ 3/8	+ 1	+ 3/8	- 3/4	- 3/8	45 3/8	+ 5/8
Bliss (E. W.)		- 7/8	+ 2 1/2		-	27 3/8	- 3/8
Boeing			+ 2 1/2			47 1/2	+ 1/8
Chrysler	+ 1/8	+ 2	+ 1/2	+ 1/4	+ 1/8	79 1/8	+ 3
Columbia Gas				-		17 1/4	- 1/8
Cont'l Oil		+ 1				60 3/4	+ 4 3/4
Coop. Bessemer . . .					+ 2 3/8	76 3/4	+ 4 3/4
Crane Co.		- 4 1/4				31 1/2	- 4 3/4
Elec. Auto Life . . .				+ 2 3/8	- 1 1/4	38 3/8	+ 2 3/8
El Paso N. Gas . . .	- 1/4					36 1/4	- 1 1/8
F'most Dairies . . .				+ 3/8		18 3/8	+ 1 3/8
Gen. Dynamics . . .	+ 1			+ 1/4		67 1/8	+ 5/8
Gen. Electric				-		63 1/2	+ 1/4
Gen. Motors	- 1/8	+ 1/2	-	-	+ 1/4	41 3/8	+ 5/8
Gen. Telephone . . .		+ 1 1/4		- 1 1/8		44 1/4	+ 1 1/2
Gulf Oil		- 3/4				128 3/4	- 4 1/4
Hudson & Man. . . .					+ 1/4	4 1/4	+ 1 3/8
Lukens	+ 4 3/8	+ 6 3/4	+ 1 1/4	- 7 3/8	- 2 3/8	89 3/4	+ 1 3/8
N. Y. Central				+ 3/8		30 1/4	- 5/8
N. Amer. Avia. . . .			+ 7/8			42 3/8	+ 2
Nor. Pacific					+ 1 1/4	30 3/4	+ 1 1/8
Penn Texas					+ 1 1/2	11 3/8	+ 1 1/2
Phila. & Reading . .	- 3/8					29 1/2	- 1 3/8
Pure Oil			+ 3/8			42 3/8	- 1/4
Rexall Drug			- 3/4			9 1/2	- 5/8
Royal Dutch					- 1/8	47 1/4	- 7/8
Sears, Roebuck . . .	-					26 3/8	-
Sperry Rand	+ 1/2	+ 1/4				23 3/8	+ 1/2
Stan. Oil (Cal.) . . .	+ 1 1/8	+ 1 1/8				51	+ 7/8
Stan. Oil (N.J.) . . .	+ 1/4	+ 1/2	- 1/4			59 3/8	- 5/8
Texas Gulf Prod. . .			+ 4 3/8	+ 2 1/2	+ 2 3/8	45 3/8	+ 1 1/8
Texas Gulf Sulf. . .			+ 1/4		- 1	29	- 1
Union Pacific				+ 3/8	+ 1/4	28 3/8	+ 7/8
U. S. Industries . . .	+ 1/8					16	- 3/8
U. S. Steel		+ 1 1/4		- 5/8		63	+ 1
Youngstown Sheet				+ 2 3/8	+ 2 3/8	112 1/4	+ 3 3/8

gerated by the old "they say . . ." type of speculation.

Of course, speculative fires keep the pot boiling. They make newspaper headlines and the boardroom chatter calculated to whet public interest. "They say . . . Universal-Cyclops is another Lukens . . . Emerson Radio will split its stock . . . Texas Gulf Producing has splendid drilling prospects and may figure in a merger. . . ."

Much gossip, brokers know, has some basis in fact. Besides, it builds up trading volume on which commissions grow lush and thick. Yet it also creates air pockets that pitfall the general market.

- **Selectivity**—So reputable brokers and bankers like markets that, though quieter, build on sound values and careful analysis. They feel we are having a "selective prosperity" and that we should have a selective market.

There are plenty of demonstrations of investors' selectiveness (by way of contrast to speculators' impulsiveness). Just for a quick example, 13 of the issues included among the most active on one or more days last week touched new highs for 1957—but there also were four that reached new lows.

Most of the investment-grade favorites moved in a reasonably narrow price range. But there were wild swings, too, like Texas Gulf Producing's \$11 rise.

In spite of speculative fevers—or even partly because of them—many observers have been saying the last few days that "the market looks tired." They feel prices generally need a resting period or, more likely, a corrective reaction.

Only a handful thinks the present upswing has much chance of retracing enough ground to carry the price averages up to their bull market peak.

- **Changed Sentiment**—Conservative opinions now do not, however, have in them the type of pessimism abounding in Wall Street a few months ago. Then there was a widening expectation of a substantial downturn in business. Even those who felt that activity would hold up were convinced that the profit squeeze would damage earnings.

Today there is some surprise and much satisfaction that business, profits, and dividends have been holding up so well. So far we have ridden out an inventory adjustment of sorts. Business spending for new plant and equipment is coming fully up to expectations (BW-Apr. 27 '57, p41) even though there still are no signs of looser money.

With that background, a good many investors (institutions as well as individuals) have felt that some accumulation of good stocks was justified. This seemed more advisable than sitting with idle cash. If better bargains are available later, it will be possible to average down on price; meanwhile, buyers at least are sure they won't miss the boat.

What's Behind the

THE BOILING activity in Lukens Steel Co. stock simmered down this week to what seasoned traders on the New York Stock Exchange described as something approaching normal. But its extraordinary performance in April was having repercussions in Wall Street, Washington, and the company itself.

It is hard to come by the precise details of just what made Lukens go off on a tear. There are plenty of rumors about, of course, but few of those who know the facts are talking. Yet despite the blanket of silence, it is possible to explain Lukens' gyrations.

- **Inquiry On**—The main reason for the silence is that the Securities & Exchange Commission is conducting an investigation of the trading in Lukens. And most of the individuals directly involved—company officials, specialists in the stock, the Board of Governors of the Stock Exchange—are reluctant to speak while the SEC inquiry goes on.

Even the SEC is keeping mum. The chances are that it will never make its findings public. This is because the SEC only does so if it thinks it has uncovered some illegal transactions. From the information available, it is doubtful that any such moves were involved.

As a matter of fact, the SEC is not even admitting, in public, that it is investigating Lukens. All that its spokesmen say is that it "can be assumed there is an investigation," on the grounds that the SEC always investigates any stock with sharp fluctuations that could be unsettling.

I. A Long Build Up

There is no question about the sharp fluctuations in Lukens and their unsettling influence. The price in April ranged from a low of \$62.87 to a high of \$110.50. Trading was suspended on four separate occasions, and the Stock Exchange finally took the unprecedented action of canceling all "stop" orders—instructions to buy or sell at prices set by customers in advance. The amount of "short interest" speculations (that the stock would fall rather than rise) leaped from 40,000 shares in March to 98,000 in mid-April.

Moreover, about 1-million shares were traded during the month. There are only 957,000 shares of Lukens outstanding, and of this total, the Huston family, which controls Lukens, holds roughly 39%—or 370,000. This means that the turnover in April was about twice the amount of shares in the hands of the public. The frenetic activity exhausted the four specialists handling Lukens, and they had to be replaced by a new seven-man team.

April 4 Trading suspended when Charles Lukens Huston Jr. declares first quarter earnings should "equal or better" the 1956 figure of \$1.43 a share.

April 9 Trading suspended when Lukens Steel Co. announced record first quarter earnings of \$3.53 a share—extra dividend of 80 cents.

April 18 New York Stock Exchange changes specialists in Lukens Steel shares because of their "physical and mental exhaustion."

April 24 Stock Exchange cancels "stop" orders in Lukens Steel.

But what happened in April was merely the culmination of a spectacular performance that began early last year. In January, 1956, Lukens was selling for as low as \$42. And, at that time, there were only 313,000 shares outstanding. The stock was split 3-for-1 in January, 1957. From its January, 1956, low point to the peak in April, 1957, it registered a gain of 685%. Figured at the April closing price, the

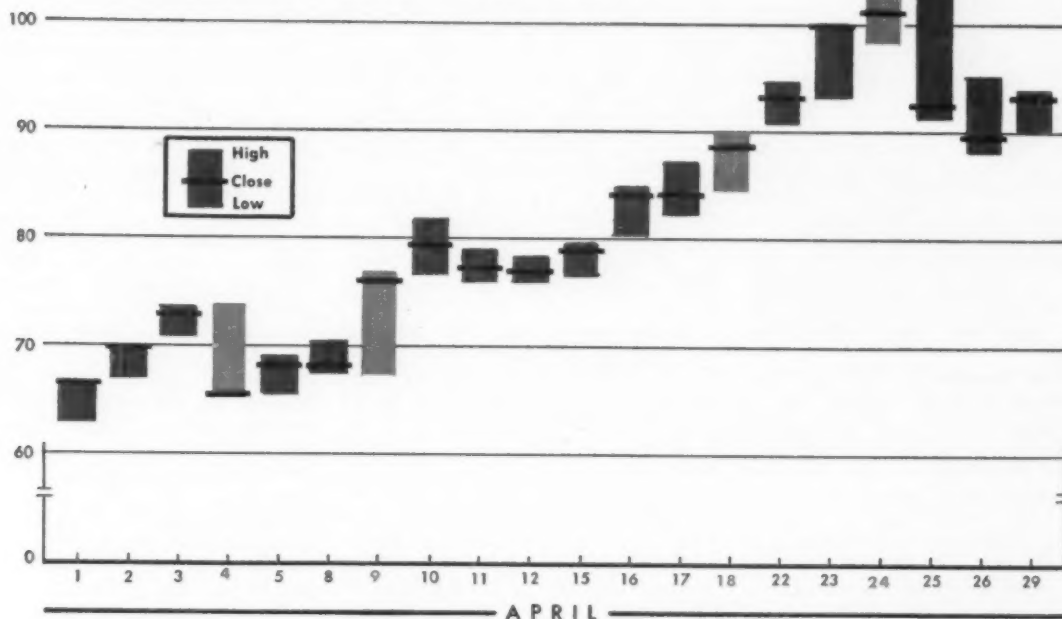


PRESIDENT of company is Charles Lukens Huston, Jr. His cautious estimate of earnings abetted fuss that finally led the . . .

Giddy Doings of Lukens Stock

Price in Dollars
110

Share Prices: Lukens Steel Co.



increase was 575%. The paper profits of the Huston family in April alone were over \$12-million.

• **Unwitting Helper**—However, it is clear that no member of the Huston family was engaged in any manipulations for personal profit. Most Wall Street observers feel that Charles Lukens Huston, Jr., president of Lukens Steel Co., was partly to blame for the fact that trading in the stock got out of

hand. But all sides agree there was nothing intentional in the part he played.

This is apparent from the "insiders' report" that every listed company must file with SEC. The Lukens report discloses that the family and company executives engaged in very few transactions during the past 12 months when the stock was riding high. In the crucial April period, when the stock increased

in value by almost 50%, Pres. Huston transferred 400 shares to his wife and three children. Three other executives sold a total of 500 shares. But, most significantly, there was no buying during that time.

• **Good Reason**—Actually, there are solid economic and market reasons for the climb in the price of Lukens (BW—Mar. 26 '55, p166).

Lukens, which has always been a



... **SPECIALIST** in Lukens stock, Irving H. Burnside, to ask for replacement, so hectic was the activity. Request went to ...



... **WATCHDOG** of market, Edward C. Werle, Stock Exchange vice-chairman. He took the rare step of appointing a ...



... **REPLACEMENT** for Burnside—Arthur K. Peck (above) and firm of Walters, Peck & Co. But pace exhausted them, too.

family-run firm, is not a fully integrated steel operation. It has no ore reserves or blast furnaces. But it does boast the nation's widest plate mill, and it is one of the largest producers of heavy steel plate for machinery, construction, and shipbuilding. Last year's capital equipment boom created a big demand for its specialty, and as sales and earnings soared, so did its shares of common stock. At that time, there were less than 200,000 shares in public hands; so any sizable upturn in demand pushed the price up.

Then the Suez crisis, which accentuated the rush to build new tankers, stimulated even greater public interest in Lukens' shares. The company itself, needing extra funds for expansion, had upped its debt limit from \$7-million to \$50-million and put through a stock split, which increased the shares from less than 320,000 to 953,000.

- **Limited Supply**—But with the Huston family holdings representing a huge chunk of the total, the amount available for trading was still extremely limited. According to stock analysts, a good many shares were never on the market. They were held by Lukens' directors, trusts and other permanent investors.

The small supply of Lukens actually available made it vulnerable to speculative pressure. The daily volume figures reveal that speculation in Lukens started in 1956, most of it by investors who figured the stock was underpriced. Those who invested on the long side—betting it would go up—naturally made big profits.

- **Betting on Profits**—Wall Street brokers privately say that among the biggest speculators in Lukens were Greek ship owners, who were actively placing orders for new tankers. As one broker put it: "They weren't doing anything illegal. They knew ships had to be built before the public knew it and were just cutting the price they had to pay for steel plate by investing in Lukens."

But as the shares went up, an increasing number of speculators felt a downturn was probable. This is evident from the rise in Lukens' short position. Speculators sold short by borrowing shares with the intention of replacing them by buying when the price declined. Their profit would come in the difference between the borrowing price and the actual price they had to pay for buying the stock.

II. A Risky Venture

Short selling is a fairly sophisticated operation that can be precarious. The kind of rise that Lukens registered throughout 1956 naturally invited short sales. At the same time, the small num-

ber of shares available meant that if buying demand did not fall off, then short sellers could be badly squeezed.

Even sophisticated short sellers have taken beatings when buying demand remains strong. The classic example was the Northern Pacific corner of 1901, when Morgan and Harriman interests engaged in an intense but secret battle for control of the stock. Their buying sent the price rocketing, and led outsiders to sell Northern Pacific short. But the shorts panicked as the price rose more than tenfold, and their frantic attempts to cover resulted in widespread bankruptcies.

Although SEC and Stock Exchange regulations definitely prevent rigging of the sort that was once common, there are still opportunities for smart speculators to run the price of a stock up or down.

In the Lukens case, with the Huston holdings so large a part of the total, any outside operation was risky because a rising price might prompt the family to sell. But just because so few shares were available to the public, any operations in them would have a magnified impact on the price.

- **Again the Greeks**—This week BUSINESS WEEK learned that the biggest short-sellers also represented Greek shipping interests. It is probable that they were the same speculators who had formerly been long on Lukens. They undoubtedly reckoned that they could add to their profits by driving the price down, then buying the stock up again at lower levels. Or they may have been protecting their profits by selling "against the box"—using some of their own stock to cover short sales. Greek shipping interests contacted this week refused to comment, except for one who denied any involvement and said, "every time Lukens goes down it's blamed on us."

Late in March, rumors began spreading in brokerage houses that Lukens had enjoyed a fantastic first quarter, with earnings up to \$5 or more a share. This bullish talk, innocently passed along, stimulated public demand and led to a \$14 rise in eight trading days, which had all the earmarks of a final push before the decline.

Then, on Apr. 4, Pres. Huston told a reporter cautiously that first quarter earnings "should be at least equal to if not better than" the 1956 quarterly figures. He added that it was still too early to predict 1957 profits, but, he declared, "we expect a good year."

- **Explosion**—This moderately optimistic statement was a shattering disappointment to most public investors. Edward C. Werle, vice-chairman of the Exchange's Board of Governors, said it was "a bombshell." Even Irving H. Burnside, a specialist who has handled Lukens ever since its listing in August,

1945, was "shocked." Immediately, brokers were swamped with sell orders, and the exchange decided to suspend trading until Burnside and the other three specialists straightened out their books.

III. Men in the Middle

Stock specialists do not deal directly with the public, but only with other brokers. Their job is to maintain a continuous market in the stocks they represent. This entails not only holding an auction between buyers and sellers, but buying or selling for their own accounts when there are no bidders.

For example, when Burnside was swamped with selling orders after Huston's statement, he consulted his book containing buy orders placed by other brokers below the market. In order to maintain a continuous market, he and the other specialists had to buy the excess for their own account. Over 70,000 shares were traded after Huston's remarks became public; the stock plunged almost \$8 that day.

- **Good News?**—The short sellers could not have asked for a better situation, but then they and the specialists were hit by another bombshell. On Apr. 9, Lukens issued its first-quarter report. It showed that sales were almost three times the 1956 figures, while earnings per share hit \$3.53, compared to \$1.43 last year. In addition, Lukens declared an extra dividend of 80¢.

Now it was buy orders that hit the specialists. Again, the Stock Exchange ordered trading suspended until the specialists could make a market. Over 84,000 shares were traded, and the day's jump was \$8.

The technical details of maintaining an auction were so involved that Burnside borrowed a young specialist from another firm to help out. In the following days, buying orders continued to mount, but the specialists were able to maintain a continuous market. Werle, who closely followed their specialists' operations declared that "they did an excellent job throughout."

- **The Squeeze**—The buying pressure squeezed the short sellers. Those who wanted to replace the stock they borrowed could do so only at higher prices. And their own desire to cut losses by buying Lukens added to the demand and pushed up the price of the stock.

By this time, Burnside—who also is a specialist for such stocks as Phelps Dodge, Gimbels, and Cleveland Electric—felt that he could no longer cope with Lukens. So he and the other specialists appealed to Werle to reallocate the stock. In part, it was a manpower problem. But even worse was the mental strain.

A request to drop a stock is extremely rare on the exchange. But Werle felt the circumstances justified the appeal. From constant inspection of the specialists' books, he was convinced there was nothing wrong in their operations. In fact, when Burnside turned over his book, he showed only a very small profit for the April period.

• **Continuing Flood**—Werle assigned Lukens to Walters, Peck & Co., a seven-man outfit that handles Eastman Kodak, Eastern Air Lines, and other stocks. But this bigger team was soon inundated by buying orders. On April 24, a day when the stock hit 110½, the Stock Exchange suspended trading twice. Then, when the day was over, it canceled all stop orders in the stock.

Stop orders normally serve to minimize the fluctuations in stock movements. This is because the specialist has in his book both buy and sell stops at stated prices that can be utilized if the shares fall or rise. But Lukens had become an abnormal situation, and stop orders were being constantly changed by brokers. Instead of helping minimize movements, the flood of changing stop orders accentuated them.

• **Aftermath**—Once the cancellation went into effect, the stock cooled off. But there is still plenty of steam in all quarters. A lot of short sellers take a licking. There is also an irate group of investors who sold out when Huston made his moderate statement on earnings and watched their chances for profits go glimmering. It is rumored that several of these are planning suits against the company.

Huston himself made no explanation. According to sources close to the company, he knew at the time just about how lush the earnings actually were. It was not his intention to mislead the public. A conservative man, more skilled at steelmaking than public relations, Huston probably felt he would cool off the over-bullish rumors then current.

There was nothing actually false in Huston's announcement. But most stock brokers feel that, under the particular circumstances, it was misleading. Moreover it is normal for specialists to have fairly full information on the companies they represent but in the case of Lukens the specialists were as much in the dark as the public was.

• **Not Inflated**—Stock analysts who specialize in steel feel that Lukens' current price is probably about in line, at least over the short term. As they see it, Lukens should earn between \$12 and \$14 a share this year, and is thus currently selling at about seven times earnings. "The shortage of steel plate may be over in a year," points out one expert, "and Lukens, which is not an integrated firm, may be affected."

Oil Fuels New Trade Fight

ODM has ruled imports threaten to endanger the national security. Now the President must decide whether to impose curbs. That decision will have wide effects.

Congressmen with protectionist leanings are pouring oil on the smoldering "freer trade" vs. "protectionism" fight. They want the White House to use its authority to cut oil imports drastically. If it doesn't, they threaten to do the job themselves by writing import curbs into law.

The outcome in the oil case will affect not only the petroleum industry, but also other industries seeking protection. And it will be a focal point in the debate over extension of the Reciprocal Trade Act next year.

• **An Important First**—The oil matter landed in the Administration's lap last week after Gordon Gray, director of Office of Defense Mobilization, formally certified imports of crude oil threaten to endanger the national security. This is the first time any commodity received such certification.

Now it's up to Pres. Eisenhower to decide whether to use broad authority granted him in the 1955 Trade Agreements Extension Act to impose mandatory restrictions on foreign crude.

The oil controversy is unusual in that both the domestic and foreign producers involved are U.S. companies. The domestic producers claim increasing imports of crude from the Middle East and Venezuela are cutting into their share of the market and discouraging new exploration and development within American borders. The major companies with overseas holdings, of course, want big imports.

• **Rise in Protection Sentiment**—Eisenhower reluctantly agreed to the amendment to the trade act in 1955 as a sort of safety valve against rising protectionist sentiment on Capitol Hill. Industries seeking greater protection against foreign imports were aroused—and still are—over his continuing failure to use the "escape clause" machinery already contained in the Reciprocal Trade Act.

This provides that the President, on recommendation of the Tariff Commission, may withdraw or modify the trade agreement concessions granted foreign countries when a domestic industry is "seriously injured."

The 1955 amendment (Sec. 7 of the trade act) requires the ODM director to notify the President when imports of any commodity threaten to endanger the national security. If the President concurs, he has authority to take whatever steps he deems necessary to control such imports.

So far only oil has gotten its case as far as the White House. Ex-ODM boss Arthur Flemming turned down a petition filed by cordage producers. Applications from six other industries—analytical balances, clinical thermometers, wooden boats, wool textiles, jeweled watch, and timing devices—still are pending.

• **Oil Issue**—Ever since the 1955 trade law was enacted, oil has been the real hot potato.

Flemming, at White House direction, tried to persuade crude importers to cut back voluntarily to the 1954 ratio of imports to domestic production—the yardstick cited by Congress in passing the trade act.

But imports continued to climb, and by the time the Suez Canal was closed to oil traffic in November, Flemming was ready to certify that crude imports endangered national security. He held off because he felt the Suez crisis temporarily would end the oil import threat and provide an export market for U.S. producers.

The big drop in imports failed to materialize, and the Independent Petroleum Assn. of America and oil-state congressmen were knocking at ODM's door again even before the Suez crisis eased.

Reports requested from importers by ODM's Gray indicate that crude imports in the last six months of 1957 would average 1,261,000 bbl. daily. That's an excess of 510,000 bbl. a day over the limit as measured by the 1954 formula.

Gray then made his legal certification to the President that he had "reason to believe that crude oil is being imported in such quantities as to threaten to impair national security."

• **Possible Procedure**—Pres. Eisenhower agreed publicly that such a danger may exist and announced the White House would make its own investigation. He also asked Gray to try again to win voluntary cooperation from importers.

The White House has been silent on the procedure it will follow. Gray has suggested that an independent commission of private citizens will be appointed to conduct the White House inquiry. But there is an outside chance that the White House will order a simple staff study (which independent oil producers would oppose)—possibly by Clarence Randall, special assistant to the President, whose personal viewpoint leans toward freer trade.

West Scores Victory in Jordan

Thanks to King Hussein's success against agents of Cairo and Moscow in Jordan, the West is now more optimistic about the Mideast than at any time since the Suez crisis began.

THIS WEEK, for the first time since the fighting began at Suez, Washington is feeling relatively easy about the Middle East. Indeed, some U.S. officials are convinced that the tide has now definitely turned—against Egyptian Pres. Nasser and against Soviet influence in the area.

The success of pro-Western forces in Jordan explains the new mood. After two weeks of explosive tension in the desert kingdom, the situation now seems to be under control. With an assist from the U.S. Sixth Fleet, King Hussein has apparently routed the stooges of both Moscow and Cairo. And he is emerging from the bitter struggle as political and military boss of his country.

• **Kingly Exploits**—In winning his victory, Hussein has done some significant things. He has:

• Broken Pres. Nasser's spell—and weakened the role of the Middle Eastern mob as a political force.

• Shattered, at least in his own country, the strong links between Communism and Nasserism.

• Destroyed the old unity of the

Arab League, by lining himself up with Saudi Arabia and Iraq against Egypt and Syria.

• **Proved the Eisenhower Doctrine** an effective instrument of Western policy in the Middle East. (Of the countries in the area, only Egypt and Syria now oppose it.)

However, the very success of U.S. policy in Jordan may well lead to another test for the Eisenhower Doctrine—this time in Syria, where the Russian hold on both government and army is even firmer than in Nasser's Egypt. Hussein's success may inspire the Syrian anti-Communists to try to loosen this Soviet grip. It will almost certainly strengthen their hands.

• **Gain for West**—Even if there is no early showdown in Syria, and the Middle East situation merely simmers for a while, there will be a new alignment of power in the Arab world. And it will be far more advantageous to the West than anything since Nasser nationalized the Suez Canal.

The political balance has shifted sharply away from Egypt and toward a new partnership of Iraq, Jordan, and Saudi Arabia. U.S. officials hope this entente of three kings can be broadened and strengthened in the future—perhaps eventually into some sort of federation. Such a step would make it easier to solve some of Jordan's chronic political and economic problems. For example, some of Jordan's troublesome refugees might be resettled in Iraq, and Jordan might be able to draw on oil wealth of

the other two partners for long-term development.

• **Loss for Kremlin**—And, even at this early stage, it seems probable that the new chumminess of Jordan, Iraq, and Saudi Arabia will be a strong influence on Syria—and perhaps even on Egypt. At this point, Nasser can't expect much effective help from the Russians. After all, Soviet hopes of stirring up trouble rested mainly on Nasser's ability to extend his Middle East influence. Now that he has been decisively checked, their chances of infiltration elsewhere have dimmed.

In any case, Washington is ruling out a determined new Soviet intervention. The strong U.S. stand makes Soviet military moves unlikely. And economically the U.S. is prepared to outbid the Russians. What's more, the clear aim of Soviet policy now seems in the main to be a revival of the Geneva spirit—in order to buy time for internal reforms. Reheating the Middle Eastern pot would only interfere with that.

• **Perils Ahead**—Still, there is no tendency in Washington to underestimate the dangers and difficulties lying ahead. So far, the U.S. has accomplished little more than to reestablish the pre-Suez status quo—and to make a start at combating Soviet infiltration. Two basic problems of the area remain scarcely touched:

• A massive social and economic revolution, with an attendant fever of nationalism.

• The rankling hostility between Israel and the Arabs.

• **Errors in Jordan**—There is no doubt now that Cairo and Moscow, each in its own way, overplayed their hands in Jordan—and jointly precipitated a situation that turned against them.

Just a few weeks ago, Nasser was hoping to supplement his Suez victory by pushing Jordan into federation with Egypt and Syria. Under the scheme, he would have been virtual leader of all three nations. In Jordan, he was counting on ex-Premier Nabulsi to prepare the ground for this by removing all pro-Westerners from the government. Early in April, Nabulsi was beginning to oblige. But Nasser didn't want Nabulsi to go so far as to knock Hussein from the throne. That would have completely severed Egypt's ties with King Saud of Saudi Arabia.

Moscow's agents and allies in Jordan had no such inhibitions. To achieve a semi-satellite regime on the Syrian model, they were quite ready to destroy the monarchy. In fact, it was the Communists who set off the final crisis by starting a series of mutinies in that part of the Jordanian army stationed



ANTI-WESTERN demonstrators swarmed streets of Amman, Jordan's capital, but their strength waned with young King Hussein's show of armed strength.



PEACE returned to Amman market (above) and the rest of Jordan after Hussein stood firm against Communism and Nasserism.

west of the Jordan River—where most of the Palestinian refugees live.

• **Royal Chance**—The difference in aims of Communists and Nasser forces actually gave Hussein his chance to hit back at both. First, he managed to dispose of the Communist-inspired army revolts. Then, with a loyal army behind him, he coped with the mobs let loose by Nabulsi's allies. In the midst of the crisis, the king proclaimed Communism the chief enemy in Jordan—and accused Nasser of complicity in the whole affair.

Hussein won the backing of King Saud, despite the fact that the Arabian monarch has long been an enemy of Hussein's Hashemite family. Saud had returned from his Washington visit determined to throw his weight against Soviet penetration. And, of course, he had an eye on Tapline, the Aramco

pipeline that reaches the Mediterranean via Jordan.

Support for Hussein came also from Iraq and Turkey. Just as the U. S. Sixth Fleet moved last week to the eastern Mediterranean, the Turks concentrated sizable forces on their border with Syria. But what counted most was Pres. Eisenhower's declaration that the territorial integrity of Jordan is of "vital" interest to the U. S. Throughout the crisis, Hussein had the full support of U. S. representatives in Jordan and other Middle East countries.

There may still be some ticklish times ahead for the young king. In dissolving the Jordanian parliament, which he used to describe as "Nabulsi and the 40 thieves," the king has made himself the focus of all opposition—of which there's bound to be plenty. He now has enemies among the purged army offi-

cers, as well as among the political leaders of the refugees from Palestine. For real loyalty, he can count only on the local tribes and his personal entourage.

• **Back at Suez**—As for Nasser, if he trims his sails now and moderates his anti-Western, pro-Soviet policies, Washington will be inclined to meet him halfway. It might even start offering him some economic assistance on a small scale.

U. S. officials reason this way: Nasser, for all his troublemaking, is probably as moderate a leader as can be expected in Egypt under present circumstances. Moreover, he does hold the Suez Canal—and could be driven to try to use it again as a weapon to wring concessions from the West. And this could touch off a new Middle East explosion, which would set back the Administration's hopes for long-term stability there.

Televised News Panel

THE PICTURES on this page, taken this week in Washington, show one of the journalistic phenomena of this age—the televised news panel show.

This particular show is Martha Rountree's Press Conference of last Monday night. At the end of a busy day, Army Secy. Wilber Brucker sat down for a duel of wits with a dozen reporters before live TV cameras in the American Broadcasting Co.'s Studio A in Washington.

This sort of thing goes on regularly in Washington, where each of the three nationwide networks now has a major weekly news panel show in the competition for important guests such as Brucker. The Big Three are:

- NBC, Meet the Press, Sundays 6-6:30 p.m. Eastern time; producer and featured panelist, Lawrence E. Spivak. It's in its 10th year on TV.

- CBS, Face the Nation, Sundays 4-4:30 p.m. Eastern time; producer, Ted Ayers; in its third year.

- ABC, Press Conference, Mondays 9-9:30 p.m. Eastern time; producer and moderator, Martha Rountree; in its first year.

• **Format**—Basically, all follow the same format: (1) a guest (unpaid) who's in the news or one who can make news by what he says; (2) a moderator to keep the show moving at an orderly pace; (3) a panel of newsmen (standard fee: \$125 per show) to ask questions. CBS uses a three-member panel; NBC, four panelists, and Miss Rountree, a dozen.

In his half-hour before the cameras, Brucker answered 52 questions, mostly on missiles (the Army's Jupiter is further along than the Air Force's Thor), but also on such other topics as unifying all military services in one uniform under one staff (it wouldn't solve anything), the Kentucky Derby (he is not going), and the outcome of any war with Russia (the U.S. "most certainly" could defeat the Soviets). As such



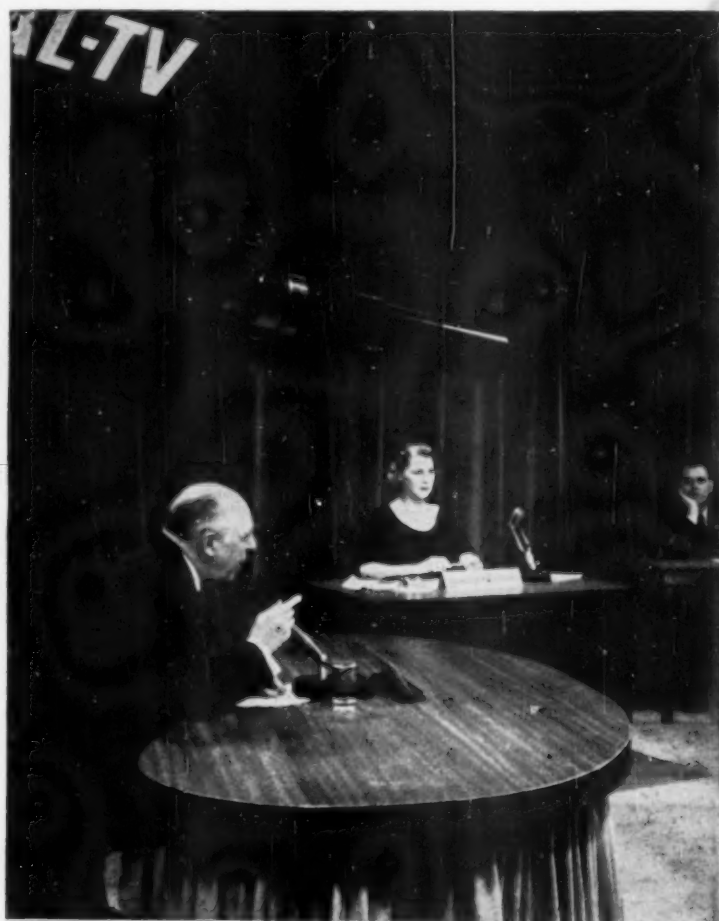
PRODUCER Martha Rountree greets Army Secy. Wilber Brucker (center), guest on ABC's weekly Press Conference show.



REPORTER panelists gather in another room to decide what topics to discuss.



TELEPROMPTER with Miss Rountree's opening spiel gets a last minute check.



STAGE is set for the duel of wits between Secy. Brucker (left) and reporters.

Shows Pack a National Wallop

shows go, it appeared to be about average—neither dull nor sensational.

I. The Impact

Most times the news panel shows are interesting, occasionally they are downright sensational, and once in a while they influence U.S. foreign policy or domestic political behavior.

As the oldest of the Big Three news panel shows, Meet the Press naturally has the lengthiest dossier of claims to major accomplishment. Adlai E. Stevenson has credited a 1952 appearance on the show with generating the momentum that led to his winning the Democratic Presidential nomination.

• **Ramifications**—It was on Meet the Press in 1955 that then-Sen. Walter F. George, chairman of the Senate Foreign Relations Committee, suggested that world tensions might be eased by a "meeting at the summit." Pres. Eisenhower had already expressed himself in

opposition to a Big Four meeting, but George's suggestion caught favorable reaction abroad—even behind the Iron Curtain. Within seven days, Eisenhower reconsidered, and Russian Premier Bulganin formally requested the Summit Conference that finally was convened in Geneva.

On another night, one that Spivak recalls with no particular pleasure, the racist Sen. Theodore G. Bilbo of Mississippi, armed with a pistol and accompanied by a police and FBI escort that brought him through a line of 1,000 Negro pickets in the street, stalked in to be guest of the week. Shortly, Bilbo grew angry and defiantly proclaimed that yes, he was a member of the Ku Klux Klan—Bilbo Klan No. 40, to be precise. The show was only on radio then, but millions heard it—and newspapers told the story again the next day in black type. Expulsion proceedings were pending in the Senate when Bilbo died, not long afterward.

Whittaker Chambers, an avowed ex-Communist, capped a sensational chain of events by appearing on Meet the Press where, without benefit of Congressional immunity, he branded Alger Hiss a Communist. Hiss sued Chambers, who defended himself by producing the celebrated "pumpkin papers" that led to Hiss' ultimate conviction.

II. Why Guests Appear

All of the Big Three news panel shows are Washington-based, and it is in the Capital that they find most of their guest subjects—busy people doing important things that affect a lot of the population.

Why will they do it, especially since it may seem an odious task to sit there in the "hot seat" and be bombarded with pointed questions?

There are many answers. Miss Rountree lured Postmaster General Arthur Summerfield last month for Press Conference—when he had sharply reduced postal service in his fight with Congress about more funds—with this line:

"The Post Office is a public service and you should want—if what you say is true—to explain to the American people: Of course, if you're wrong . . ."

• **Routine**—This is a fairly routine approach, and producers say it works remarkably well whenever a potential guest is reluctant.

Atty. Gen. Herbert Brownell gave Miss Rountree's first Press Conference presentation, last July, a big sendoff by breaking the news that the Justice Dept. was readying a major antitrust suit against General Motors Corp. for allegedly dominating the bus market. The episode caused a minor storm in the news profession, because Brownell had not been available to newsmen.

Newspaper editorialists and cartoonists were outraged, but not Miss Rountree nor the Administration. Miss Rountree was happy because newspapers and wire services could ignore neither the story nor its origin. The Administration smiled through because a Presidential election was coming, and Brownell's timing of the GM antitrust action furnished a counter to Democratic charges that Republicans were being overly kind to big business.

• **Completely Unrehearsed**—As advertised, the programs are unrehearsed as to questions or topics that will be covered. No producer will admit to having ever guaranteed any guest that he would not be questioned on a particular topic. Spivak says he tells his guests, in effect, "If you're worried or scared about anything, don't come on."



guests often find that an evasion, a glare, or a frown can cost them dearly.



BRUCKER answers the last question . . .



. . . Miss Rountree sums up . . .



. . . and the show adjourns for cocktails.

Ayers says. "There are not indiscreet questions, only indiscreet answers."

Miss Rountree turned down a chance to have Generalissimo Franco as a Press Conference guest because the Spanish dictator insisted on having questions and answers prepared in advance. Ayers rejected Russia's V. M. Molotov, two years ago, on comparable grounds.

• **Self-Defense**—There are other reasons for appearing that appeal to politicians. One is the challenge. Most politicians, rightly or wrongly, regard themselves as skillful in dealing with newsmen. Another is the prestige that attaches to being asked.

One in personal trouble is often the easiest to lure into the guest's chair. Jacob Javits, seeking the Republican Senatorial nomination in New York last year, went on Meet the Press when charges of past association with Communists threatened to blight his career. The result, in Javits' own words: "My appearance on Meet the Press did more for me than anything. I was glad to appear; I was so beleaguered I'd have gone anywhere and done anything."

• **Teamsters Coup**—Ayers scored a coup this spring by taking Face the Nation to Seattle and landing Teamster union chief Dave Beck for an appearance—just before Beck's appearance in Washington before the Select Senate Committee Investigating Labor Racketeering. Under no oath, Beck admitted his extensive "borrowings" from Teamster funds; later, in Washington before the McClellan committee, he invoked the Fifth Amendment.

• **Foreigners Invited**—Another kind of guest now showing up frequently is the foreign dignitary. Washington embassies overtly seek invitations for visiting officials. It's good public relations for them in the free world's richest, most powerful nation.

• **Dissenting Views**—It should be noted that there is by no means unanimous agreement about the value of the shows.

For instance, the nation's three most powerful Democrats—for reasons best known to themselves—avoid guest appearances. They are Senate Democratic leader Lyndon B. Johnson, Speaker Sam Rayburn, and former Pres. Harry S. Truman.

• **Newspapers' Attitude**—Most Washington news-gathering organizations now cooperate by allowing their reporters to appear as panelists. But it was not always so. The United Press, for example, for a long time banned appearances by its employees.

The New York Times permits its reporters to appear, except during political campaigns when the guest is a political figure. The Times figures that viewers who understand neither newspapering nor politics might charge bias to questioners.

There's a lingering suspicion that some government press agents hold back stories for their bosses to break on TV, but most Washington newsmen now take at least a tolerant view of their video competition.

III. Rountree-Presbrey Team

Although she has the newest of the Big Three shows, Miss Rountree can claim to be the real veteran of this field. As an independent entrepreneur working in New York, she came up with Meet the Press for radio in 1945. Spivak, then a magazine and book publisher, was co-owner from the first, but he did not begin appearing as regular panelist until some months later.

In 1947, the Spivak-Rountree team took the show to television when General Foods bought nationwide sponsorship. Seven years later, in 1954, the team dissolved. Miss Rountree had married Oliver Presbrey, an advertising man. The trade says that where two experts had been able to agree on procedures before, three found themselves in frequent disagreement.

When the breakup came, Miss Rountree received \$127,000 for her half-interest in the show and retained ownership of Press Conference, a quiescent program in the Rountree-Spivak dossier. (A year later, Spivak sold Meet the Press to NBC for an undisclosed amount—and NBC in turn gave him a 10-year contract to produce it and appear as a regular panelist.)

• **Comeback**—In selling, Miss Rountree agreed for two years not to produce or otherwise compete by producing a show comparable to Meet the Press. However, she and Presbrey started almost at once to try to sell Press Conference for network sponsorship, claiming that it was not comparable to Meet the Press because it had a larger panel and, therefore, a more nearly authentic press conference atmosphere. At one point, they had it tentatively sold to a glass manufacturer. Miss Rountree, not without some rancor, says NBC and Spivak stopped that deal.

But last year, when the two-year hiatus was over, Press Conference made its debut (first on NBC, later on ABC) bowing in with a nationwide sponsor, Corn Products Co.

All three shows are on 52-week schedules. Face the Nation has no sponsor, the other two are sponsored every other week. News panel shows are notoriously hard to sell, because they do not have the big audiences.

• **Sponsorship**—For the alternate-week sponsors of Press Conference, with the current line-up of 78 stations, Corn Products pays slightly more than \$1-million a year. The show goes directly into every major market except Boston. Johns-Manville pays \$1.2-million for Meet the Press; it is discontinuing its sponsorship June 23.

CBS has never sold sponsorship of its Face the Nation, is said to have turned down some possible sponsors because of objectionable commercial content.

The curious case of the "cleaned out" safe

by MR. FRIENDLY*



The safe was brand new
And burglarproof, too,
So the boss would have bet
That crooks couldn't get
The fifty-three grand
He'd locked in by hand.

Then the following day
He learned with dismay
Lived a hooligan that
Had him eating his hat . . .
He found the safe locked and unscratched
But every last cent had been snatched!

This situation could shake strong men—and did because it actually happened! 53 thousand dollars were locked in a certain company's safe on one day and, on the next, had completely disappeared. Yet the empty safe was still locked and undamaged!

Only three employees had been told the safe's brand-new combination. Subsequent investigation had absolved all of suspicion. So the whole affair seemed devoid of any logical explanation.

As is usually the case, however, the truth will out, and this mystery, too, was solved.

Culprit turned out to be not a phantom but a flesh and blood porter who took his cleaning up too literally. His modus operandi was so simple it was a crime in itself. Seems that one of the three trusted employees mentioned earlier, to avoid forgetting the combination, had conveniently written it on the safe door!

Point of this whodunit is that the victim didn't suffer financially because he was insured against crime loss with American Mutual. Mr. Friendly will gladly send you, without any obligation, information on how you can protect your firm against the cost of crime, too.

PLAY IT SAFE—ask Mr. Friendly for details about his new MANUFACTURERS' BLANKET CRIME POLICY. It's written with a large, single amount of insurance across the board—yet priced on your actual exposures. Covers all employees, all locations. No interim premium adjustments, no guessing how much who can steal and where. Most important, there are new low rates for manufacturers who qualify. (Not available in the states of Louisiana, Texas and Virginia.) Write: American Mutual Liability Insurance Company, Dept. BW-5, 142 Berkeley Street, Boston 16, Massachusetts.

*Mr. Friendly in American Mutual's trademark symbolizes the spirit of cooperation and service typical of American Mutual representatives everywhere.



American Mutual

Service from 78 fully staffed offices!
Savings opportunity from regular dividends!

Clouding Detroit's 1958 Dream

● Auto men have been living in hope that 1958 will bring 1955's long-term credit buyers back into the market.

● Now a Federal Reserve study of auto financing casts some doubt on their expectation of another surge.

● It concludes 1955 was a special case, and the same combination of factors is unlikely soon again.

All through the sales doldrums of 1956—and so far this year—the auto industry's long-range strategists have had a comfortable thought.

The 1958 model year—they've been saying—ought to be a dinger. Their reasoning: Most of the 3-million consumers who bought autos on credit during record-smashing 1955 contracted for two or three years of installment payments. By doing that, they pretty much took themselves out of the market. But beginning this fall, these contracts will be paid off, and their holders will be free to stream into dealers' showrooms and sign up for another time-payment hitch.

Now, a study released this week by the Federal Reserve Board throws considerable doubt on this cheerful theory. Findings of a detailed survey of new car financing convince the Federal Reserve's experts that a wide variety of factors was at work in 1955 to carry auto sales to their highest peak—and that no equally potent combination is likely for 1958.

Obviously, the industry will sometime exceed the 1955 high point of 7.9-million cars, if only as the result of population increase. The question is whether there can again be anything like the 50% burst in autos sold for credit, such as characterized 1955.

I. Facts on Financing

The study—Financing New Car Purchases—completes the Federal Reserve's exhaustive research into consumer credit, undertaken at the request of the President's Council of Economic Advisers.

Like the other five volumes of the study (BW—Mar.23'57,p126), this one arrives at no conclusions and draws no morals. But it does point out that the marked liberalization of credit terms in 1954-55—which helped spark the auto sales boom—was brought to a halt by the action of lenders themselves.

• **Question of Control**—This analysis sustains those who argue that installment lenders are capable of self-restraint, and that supervision by the Federal Reserve over credit terms is

therefore unjustified. It was this issue that led the Council of Economic Advisers to request the study last year.

The Administration is studying the findings, but there is small likelihood that it will recommend the type of stand-by authority to fix credit terms that was proposed by some officials last year. The issue seems all but dead, partly as a result of the Federal Reserve's studies, partly as a result of a slowdown this year and last in the rate of expansion in all forms of consumer debt except personal loans (page 78).

• **Corroboration**—To get the facts about automobile financing, some 4,600 new car purchasers were interviewed about their incomes, how much liquid assets they hold, what kind of terms they extracted from dealers, and whether they think they drove a good bargain. (Most of them are well satisfied.) In 2,750 cases, what consumers said was checked against records of finance companies and banks.

The result is a documentation of how installment credit actually works from the borrowers' and lenders' points of view. Much of the survey simply corroborates what the industry has long believed—that buyers in the second half of a model year drive harder bargains than the early birds, for example.

• **Surprises**—But some of the material is new. For one thing, it explodes a belief that long maturities on purchase contracts go to those buyers who make the biggest down payments. On the contrary: The longest maturities are associated with the lowest down payments, thus compounding the lenders' risk.

Another surprise is that the most liberal credit terms—the longest maturities and the lowest down payments—go to those in the lowest income brackets, not to the \$7,500-and-up brackets where the risk would be most justified from the lenders' point of view.

II. That 1955 Surge

The survey notes that the terrific expansion in 1955—autos sold on credit jumped from \$3-billion worth in 1954 to \$4.5-billion worth in 1955—was due

to the meeting of these separate forces:

• 1955 cars hit a style note that caught on with consumers. This led an important number of buyers to take on new-car obligations sooner than usual. New-car buyers in 1954, for example, traded in cars they had owned for 39 months on the average. In 1955, this dropped to 34 months. Interviews showed that style appeal was a big reason for this sharper appetite for a new car.

• Employment and incomes rose substantially in 1955. The effects of the recession of 1953-54 were shaken off, and the median incomes of new-car buyers rose 4%. The most explosive reaction was in the middle and upper income groups where sales increased 50% over the year before.

• Credit terms were eased. The proportion of contracts with maturities of 30 months or more doubled, rising from one-third early in 1954 to two-thirds in the second half of 1955. The proportion of contracts running 36 months tripled, accounting for a fourth of all contracts by the end of 1955. Down payments declined in the same period. Early in 1954, down payments of less than 25% were comparatively scarce—fewer than a third of the contracts permitted such a low down payment. By the end of 1955, the proportion of down payments of less than 25% had risen to nearly one-half of all contracts.

III. Can It Be Again?

To Federal Reserve analysts, a further easing of terms in 1958—or anytime soon—seems doubtful. Developments in 1955 “may have approached the limits of risk exposure tolerable to lenders,” they point out. As a final warning, they conclude, “. . . there is a real question whether credit purchases of the 1955 magnitude can be repeated soon.”

Despite frequent references to increased risk to lenders in the 1955 credit expansion, however, there is every evidence in the survey that the 1955 experience is working out well. Fewer than 2% of installment buyers are behind in their payments. In all income brackets, buyers on the average are meeting contract requirements, or exceeding them.

There is no effort in the report to predict whether this experience may not eventually tempt lenders into still more liberal terms. If intriguing styles and rising incomes again set the stage, lenders may go along. What the report does say is that 1958 does not now seem to be such a year.

As far as you're concerned...

BCI

**stands for
Low-Cost
Steam**

Actually the initials BCI, stand for Bituminous Coal Institute, a recently-formed affiliate of the National Coal Association. But as far as *you're* concerned, BCI does stand for low-cost steam, for the work of the Institute can greatly lower steam costs in your plant. Here's why and how:

Coal is the lowest-cost fuel available on a comparable BTU basis in most sections of the country. With oil and gas prices on the rise, the demand for coal is increasing accordingly in more and more areas. But due to a general lack of coal knowledge, coal sales still have not reached the potential indicated by market growth. So BCI was set up to sell more coal by spreading coal information and offering assistance wherever it is needed.

If steam costs are your responsibility, BCI offers you three primary services:

BCI maintains an engineering field staff across the country. These men work with plant management, consulting engineers, school and hospital boards, etc., giving general fuel information or individualized help such as comparative analyses of local fuel costs. They'll work with you.

BCI acts as a clearing house for information from many industries on engineering data and fuel as they pertain to steam generation. This useful knowledge is yours for the asking.

BCI works closely with Bituminous Coal Research, Inc., which develops new methods and equipment for mining, preparing, handling and burning coal. All developments leading to more efficient utilization of coal are passed on to you by BCI.

These services can save you thousands of dollars yearly on steam costs. You may not need them now. But if you're remodeling your present power plant or planning a new one in the future, a letter or call to BCI can pay off handsomely.

If steam costs are an immediate problem, a BCI District Engineer can see you now. Or send for our case history booklet, complete with data sheets. You'll find it informative.

BITUMINOUS COAL INSTITUTE

Southern Building • Washington 5, D.C.

In Business

• • •

Philadelphia's Still In, But New York's Out On Ore Freight Rate to Match Baltimore

Philadelphia—but not New York—can continue for the time being to enjoy the same freight rates as Baltimore on iron ore shipped to the Youngstown (Ohio) area.

Last October, the Interstate Commerce Commission granted the lower rates to both New York and Philadelphia. Last week, a three-judge federal court in Baltimore upset the ruling as far as New York was concerned, but left it in effect for Philadelphia pending further study by ICC.

Historically, Baltimore has had an advantage for 80 years on ore rates over other North Atlantic ports, though in 1903 Philadelphia was given parity on shipments to the Pittsburgh area. Now, both the ports and the railroads that serve them are trying to get a bigger slice of the ever-growing imports of ore, especially before the St. Lawrence Seaway can get into the act.

• • •

Accounting Firm Starts 15-Day Suspension By SEC on Old Audit Charges

A 15-day suspension from practicing before the Securities & Exchange Commission began at midweek for the large accounting firm of Touche, Niven, Bailey & Smart.

The suspension by SEC arose from events dating to late 1947 and early 1948, in a Touche, Niven audit of the Seaboard Commercial Corp. To boil down the immense dossier in the affair, SEC accused Touche, Niven of "improper professional conduct" and failure to "exercise an independent and informed judgment."

Touche, Niven claims that the point at issue was merely "a matter of judgment in which honest men could and did differ." This week, the accounting firm said it felt no ill effects from the suspension, perhaps because for years it had been explaining the affair to its clients.

• • •

Big Board Gets Tougher on Listing Companies With Non-Voting Common

The New York Stock Exchange is standing firm in its opposition to listing companies that have non-voting common stock. In fact, it's getting a bit tougher.

The Big Board, which says the general policy is 30 years old, will now:

- Refuse to list new voting common of companies that also have non-voting common shares.

- Consider delisting companies that create non-voting common.

The action grew out of a proposal by W. A. Sheaffer

Pen Co. to create non-voting shares. Among the companies now traded on the Big Board that have non-voting shares is Ford Motor Co.

• • •

Westinghouse Reactivates Plans for First Private Atomic Test Reactor

Plans for a \$6-million-plus atomic testing reactor have been reinstated by Westinghouse Electric Corp. Last winter, economy reasons caused Westinghouse to defer the project, originally slated for completion toward the end of 1957 (BW—Feb. 27, p. 38).

The revived plan calls for construction to start July 1 at Waltz Mill, Pa.; it is hoped that commercial testing will start by March, 1959. It will be the first privately financed test reactor, and Westinghouse's sixth atomic installation in the Pittsburgh area.

• • •

Business Briefs

The U. S. auto buyer is turning away from the rainbow, Chrysler Corp. finds. Just plain old white—alone or in combination—is the favorite color on its 1957 models, with 26% of sales. And black is the second choice.

Directors of both companies have approved the merger of American Can Co. and Dixie Cup Co. Stockholders of Dixie Cup are scheduled to vote June 19 on the deal, in which 1.65 shares of Canco would be given for each share of Dixie Cup. Canco does not need stockholder approval.

The President's Committee on Government Contracts—familiarily known as the Nixon committee—is expanding its fight against discrimination in hiring by government contractors. The group, hitherto confined to Washington, is opening a Chicago office to cover Michigan, Illinois, Wisconsin, and Indiana. Guessing is that other offices will be opened in the Southwest, West, and South.

Homestead, Pa., is in line for the nation's first low-rent housing project built of porcelain steel. Chances are better than even that the Public Housing Administration will O.K. the 140-unit, \$2-million project, with construction scheduled to start this fall.

The Federal Maritime Board last week O.K.'d purchase of the Seas Shipping Co.—formerly the Robin Line—by Moore-McCormack Lines. The \$14-million deal calls for Moore-McCormack to continue operating the 10 ships from the U. S. East Coast to East and South Africa.

Drug companies are prepared to push even harder than expected in the hunt for a chemical cure for cancer, says the National Institutes of Health (BW—Mar. 30, p. 57, p. 50). Contracts have already been signed for the \$1.6-million earmarked by the House of Representatives, and NIH says it could place another \$5-million to \$10-million this summer, if Congress would provide the money.

See what 3M adhesives are doing today!



THE BLACK SEALER YOU SEE LOCKS WEATHER OUT OF THIS MODERN WALL. IT'S NEW WEATHERBAN BRAND CURTAIN WALL SEALER BY 3M.

Sealing curtains of glass

More than 80% glass, this "curtain wall" hangs in sections on the face of the building.

Wind and rain would whistle through its joints. But a tough, new 3M sealer seals these openings weathertight . . . stops weather right in its tracks.

WEATHERBAN Brand Curtain Wall Sealer adheres strongly to glass and metal, unites them into leakproof, lightweight walls. It flexes, stretches,

compresses with wall movement. And it goes on sealing despite sun, ice and buffeting gales. In fact, tests show WEATHERBAN Sealer may actually withstand hurricane fury.

Hundreds of other 3M adhesives, coatings and sealers serve industry in equally vital ways.

SEE WHAT 3M ADHESIVES CAN DO FOR YOU!

Consult 3M Research. Contact your

3M Field Engineer. Or for information and free literature, write on your company letterhead to: 3M, Dept. 15, 417 Piquette Ave., Detroit 2, Mich.



MINNESOTA MINING AND MANUFACTURING COMPANY • ADHESIVES AND COATINGS DIVISION

417 PIQUETTE AVE., DETROIT 2, MICH. • GENERAL SALES OFFICES: ST. PAUL 6, MINN. • EXPORT, 80 PARK AVE., NEW YORK 16, N.Y. • CANADA: P.O. BOX 757, LONDON, ONT.

LOOK INTO MTA

...for eliminating
obsolete machine tools,
improving profits!

A prominent Detroit automotive producer posed this problem:

Can you design for us an automated machine tool to speed up weight standardization of connecting rods—a machine that will also deburr the rod's weight bosses after they're milled?

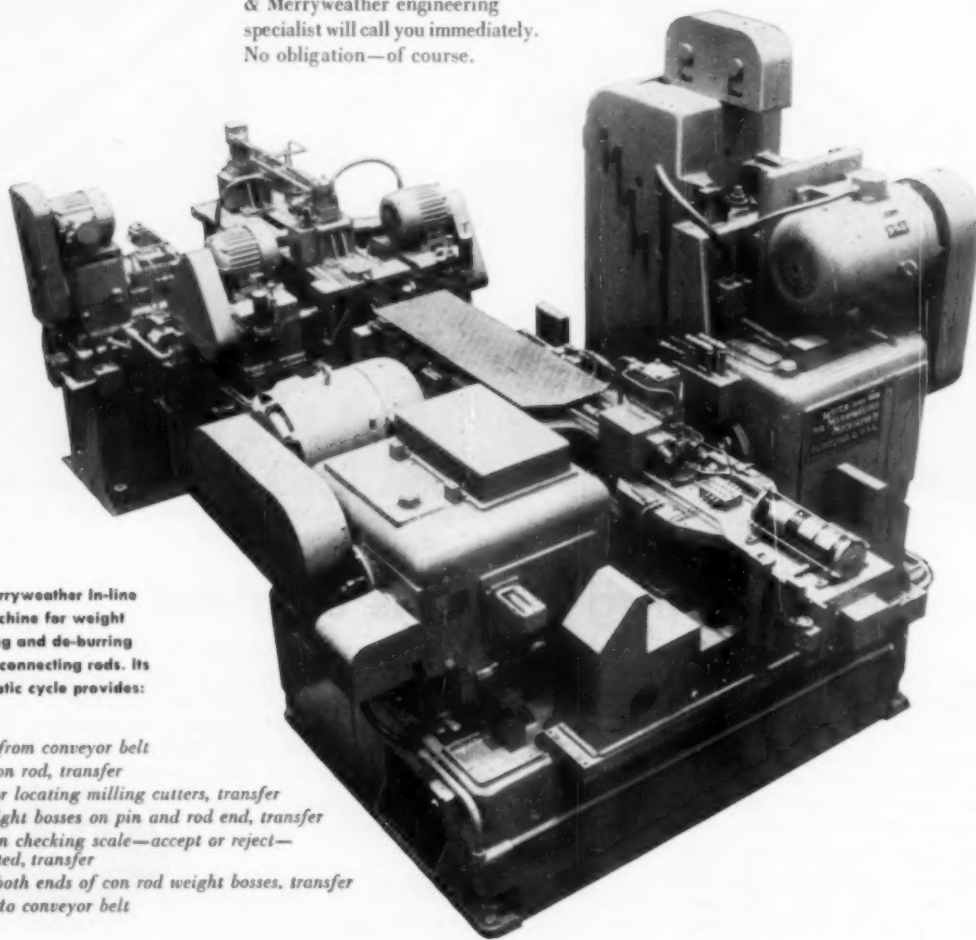
Our field engineers spent a week in this customer's plant, studying machines, methods and work flow, then submitted a complete Motch & Merryweather Machine Tool Analysis (MTA) that answered the problem. As a result we built a new type Weight Standardizing Machine which not only increased production from 150 to 320 rods per hour, but also greatly improved quality and uniformity.

Let us demonstrate how an MTA can seek out obsolete equipment on your production lines. Call us today and a Motch & Merryweather engineering specialist will call you immediately. No obligation—of course.

THE
MOTCH & MERRYWEATHER
MACHINERY CO.
CLEVELAND 13, OHIO

Motch & Merryweather In-line Transfer Machine for weight standardizing and de-burring automotive connecting rods. Its fast, automatic cycle provides:

1. Unload from conveyor belt
2. Weigh con rod, transfer
3. Probe for locating milling cutters, transfer
4. Mill weight bosses on pin and rod end, transfer
5. Weigh on checking scale—accept or reject—if accepted, transfer
6. Deburr both ends of con rod weight bosses, transfer
7. Unload to conveyor belt



BUILDERS OF AUTOMATIC PRECISION CUT-OFF, MILLING AND SPECIAL MACHINERY

WASHINGTON OUTLOOK

WASHINGTON
BUREAU
MAY 4, 1957



Washington's optimism on the business outlook is firming up.

Pres. Eisenhower's advisers now are about unanimous in feeling that the danger of spreading softness in some lines, and a resulting general business slide have largely disappeared. Current forecasts anticipate a high level of business through the remainder of the year. The advisers got considerable support during the week from members of Congress returning from Easter vacations at home and from businessmen here for the U. S. Chamber of Commerce annual convention.

Here's a quick rundown of the outlook, as government men see it.

Declines in auto sales and housing starts have about run their course. No sharp, early upturn is predicted in these lines. But the feeling is that an end of the slides will be reassuring.

Strong points in the economy are holding firm. The continued big capital spending plans of business (BW—Apr. 27 '57, p41) puts a strong buttress under the whole economic structure. At the same time, high employment at high wages is feeding strength into consumer spending.

Up-pressure under prices will continue. There's no present fear of any wild inflation spiral. What's expected rather, is a steady inching up on price tags as costs move higher. Two factors in the calculations:

Steel: Price hikes are expected at midyear, when this industry pays the second installment on the wage contract signed last year.

Transportation: A marking-up of freight rates will come during the summer when the Interstate Commerce Commission acts on railroad requests.

Figured in terms of living costs, officials guess that the BLS index, which has gone from 114.7 to 118.9 since the upswing started a year ago, will push up another two points or so before this year is out.

No reversal of the tight credit policy is in sight. In fact, the business appraisal by Eisenhower advisers shows no important dissent from the line being taken by the Federal Reserve Board. The position of the Fed is that tight credit still is necessary to hold prices in check.

Tax-cut advocates see their chances improving—not for this year, of course, but for 1958, when the Congressional elections come.

One reason is the business outlook. The flow of revenue depends on sales, employment, and profits. When they are up, Treasury revenues are up.

Another, and more important reason, is politics. Congressmen, flooded with mail against big spending and big taxes since January, got their first chance for a first-hand, on-the-ground look during the Easter recess. The consensus is that the voters will insist on a tax cut next year, regardless of the budget. The exception would be some major crisis, say war, that boosts spending.

The next few weeks will be critical in the economy fight. The House will act on the really big spending bills—defense and foreign aid. The Senate will be taking up the bills already cut by the House.

WASHINGTON OUTLOOK (Continued)

WASHINGTON
BUREAU
MAY 4, 1957

Watch for the defense bill in the House. Economy leaders have set their sights on a \$2-billion-to-\$3-billion cut in Eisenhower's \$38-billion appropriation. The cut will be a real test of economy sentiment. If they pare \$3-billion from appropriations, they will save nearly \$1-billion in fiscal 1958 spending.

The first Senate test will be on Treasury-Post Office funds. The House cut \$80-million out of Eisenhower's \$3,964-million request. If the Senate restores any appreciable amount of the House cut, it will be taken as a weakening of the economy campaign. Traditionally, the Senate is more open-handed than the House.

Chamber of Commerce members did an economy lobbying job here. It was part of their program. They were supplied with Chamber-prepared lists of House members who have weak records on budget cutting. Then, they broke up into state delegations and called on their representatives and senators to urge a strong stand against Eisenhower's spending program.

An exception in the fight to cut spending was made by the Chamber for the Business & Defense Services Administration in the Commerce Dept. This is the big contact between government and business. The House voted a \$5.3-million cut for EDSA, which would just about fold it up.

—•—

In-fighting among the Democrats in Congress is becoming more intense.

Note the maneuver on state right-to-work laws. Southerners in the party are afraid that Eisenhower's civil rights bill, presented as a way of assuring the right-to-vote by use of federal injunctions, would play hob with the continuing fight in the South to preserve segregation. Now, the civil rights opponents in the Senate Judiciary Committee have offered a right-to-work amendment to the right-to-vote bill. Northern Democrats and their union allies are bitterly opposed. They are afraid that if the question ever comes to a vote on the Senate floor, the Southern amendment will carry.

—•—

Fast amortization will be further restricted as a result of the hearings of the Senate Finance Committee. The Administration already has limited the speeded-up tax writeoffs to defense facilities. The next step probably will be to make this form of tax relief available only for defense research facilities—withdraw it from proven defense items.


—•—

Treasury Secy. Humphrey is being nominated fall guy of the big money study. Democrats will make him the target, despite his plan to retire shortly.

The plan is to blame him for tight credit. Partisans see this as a way of hitting at Eisenhower, without going after the man himself. The point will be made that Humphrey has been the most influential man in the Cabinet, and that he has let credit policies push up the interest charges on the national debt, to the benefit of banks and the rich.

The new names to head up the Treasury: Robert Anderson, the Texan who came to Washington early in the Eisenhower Administration as the No. 2 man in Defense is slated for Humphrey's post. F. Sloan Colt, of Bankers Trust Co., is the most mentioned replacement for Under Secretary Randolph Burgess. The Senate will confirm them. No doubt of that. GOP politicians will grumble. They feel Eisenhower neglects party workers too much.



Symbol of
Olin  Aluminum,
the big new
source of
Aluminum
supply



OLIN ALUMINUM brings you an important new concept of Quality and Service designed to cut your manufacturing costs

Olin Aluminum is already being produced at four locations. Soon, backed by a multi-million dollar investment and the extensive experience of Olin Mathieson Chemical Corporation in the non-ferrous metals field—Olin Aluminum's new, ultra-modern facilities will be ready to produce an initial annual volume of more than 240 million pounds of fine Aluminum.

The full integration of these new facilities—complete from ore ships to Alumina Plant, Reduction Plant, Rolling Mills and Extrusion Plants—will assure dependable delivery of Olin Aluminum to you. And the advanced technology and design of

these facilities plus the experienced skill of the men who will operate them will mean competitively superior metallurgical quality, tolerances and finish for every user of Olin Aluminum.

That is Olin Aluminum's new concept of Quality and Service: fine Custom-Made Aluminum so tailored to your individual needs that it will save you manufacturing operations...delivery and service so dependable that costly delays will be eliminated...and technical assistance so thorough and imaginative that it will assure you maximum economic use of every ounce of Aluminum.

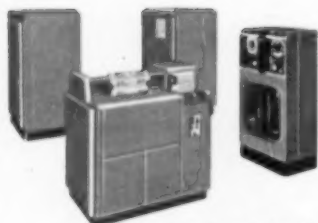
The men from Olin Aluminum are already making calls on Industry. Soon they will be coming your way. Meanwhile, we cordially invite your inquiries. Write to: Aluminum Division-Sales, Olin Mathieson Chemical Corporation, 460 Park Avenue, New York, 22, N. Y.

OLIN
 **ALUMINUM**

 AND "OLIN ALUMINUM" ARE TRADEMARKS. COPYRIGHT 1957, OLIN MATHIESON CHEMICAL CORPORATION



Pacific Mutual & Univac®



West Coast leader among the nation's top insurance companies now using the Remington Rand UNIVAC is Pacific Mutual. For Pacific Mutual knows that UNIVAC Data-Processing provides far faster, more

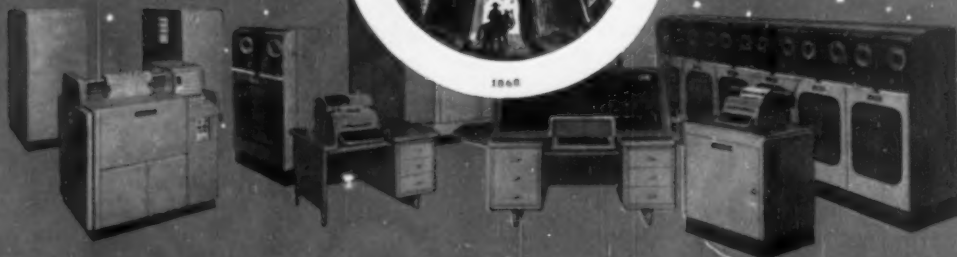
accurate service for policyholders than has ever before been possible.

Master policy file maintenance, dividend calculation and notification, premium and loan calculation and billing, premium and loan accounting—all are being converted from yesterday's mechanical record handling to the new Remington Rand UNIVAC automatic methods

which are now shaping the world of tomorrow.

Throughout the nation, enlightened management leaders are taking advantage of the bright new outlook UNIVAC brings to all phases of business administration. And, the policyholders of Pacific Mutual Life Insurance Company are to be congratulated on being among the first to share in the unprecedented benefits of UNIVAC Data-Processing.

The story behind Pacific Mutual's choice of the UNIVAC System, is told in an article by W. S. Bagby, Controller. Send for EL307, "Deciding Upon an Electronic Data-Processing System." Write today to Room 1566, Remington Rand, 315 Fourth Ave., New York 10.



Remington Rand Univac
DIVISION OF SPERRY RAND CORPORATION

Makers of: Univac I • Univac II • Univac Scientific • Univac File-Computer • Univac 60 • Univac 120 • Univac High-Speed Printer

In Marketing

• • •

Pittsburgh Plate Glass Yields to FTC, Pledges to Charge One Price for All

A consent order, accepted last week by the Federal Trade Commission, ends FTC's price discrimination charges against Pittsburgh Plate Glass Co. FTC last December charged that Pittsburgh Plate sold automobile safety glass to Ford Motor Co. at prices from 32% to 67% lower than it charged independent glass distributors and dealers who compete with Ford in reselling the glass to Ford's automobile dealers.

Under the consent settlement, Pittsburgh Plate is ordered not to sell to Ford at net prices lower than those paid by other purchasers who compete with Ford in the resale of glass.

Libbey-Owens-Ford Glass Co.—facing similar charges in selling to General Motors Corp.—has denied the charges and may contest the case, rather than settle.

• • •

RCA Victor Announces Trade-In Plan To Boost Sales of New Record Albums

RCA Victor Records is holding out a special lure to record collectors whose shelves are heavy on 78s. During the month of May, owners of old albums—of any speed or any label—that cost more than \$2 originally may turn them in and get \$1 off the suggested list price of a new album.

In cities such as New York, this won't mean much of a price break, if any, since discount record shops may sell at more than \$1 below suggested list price anyway. But Victor points out that discount operations are pretty localized. In markets beyond New York the trade-in offer should pull in a lot of customers—at a normally slow record-selling season.

• • •

Food Group Asserts Trading Stamps Are Securities, Fall Under SEC Rules

Beleaguered trading stamps face another challenge. Last week Food Industry Alliance, Inc., representing a group of supermarket chains and cooperatives in the Greater New York area, filed with the Securities & Exchange Commission this plea: "By selling through the mails and in interstate commerce certain unregistered securities, commonly referred to as 'Trading Stamps,' the stamp companies are violating the Securities Act. The Alliance demands "full and complete disclosure" of information from the stamp companies, such as SEC requires of other companies issuing securities in interstate commerce.

MORE NEWS ABOUT MARKETING ON:

• P. 62 Consumer Taste—A New Force in Marketing

The food group argues that the stamps represent an obligation or indebtedness of the stamp company, that they have a value, the amount of which is determined by the stamp company's promise of redemption, and that the stamps and the rights they represent are transferable. Thus, it argues, the stamps fall within the legal definition of a security.

Sperry & Hutchinson Co., the No. 1 trading stamp concern, calls the new attack "the sheerest kind of nonsense." Stamp opponents tried this attack in 1948, S&H reports, under Oregon's Blue Sky laws. The state Supreme Court threw out the case in 1951 with the comment: "It is very clear that in writing the definition of securities heretofore quoted, the legislature had in mind no such absurd results."

• • •

Better Business Bureaus Find People Are Investigating Before Investing

Better Business Bureaus had a busier year than ever in 1956, according to a statement just issued by the Assn. of Better Business Bureaus, Inc.

Last year, the bureaus performed 2.2-million "instances of service" (handling queries and complaints). This was a 10% increase over 1955, and an 125% increase over 1949. The ratio of complaints to queries has dropped since 1949 from 23% to 19%. This, the association feels, means that more people are heeding its warning: "Before you invest, investigate." The ratio of services performed in the major business categories has held pretty steady in the past eight years—except for the merchandise category. Here queries or complaints jumped from 34% of services in all categories in 1949 to 53% last year.

In the merchandise category, home improvement and maintenance claimed more instances of service (204,876) than any other merchandise; home appliances were second. But the biggest percentage jump occurred in automotive, photography, and furniture and floor covering fields.

The association reported progress in its campaign for truth in advertising. Out of a total of some 23,000 contacts with advertisers, only 2.8% had to be referred to authorities. The largest share of questionable ads turned up in apparel (18%), with automotive and appliances each taking 15%.

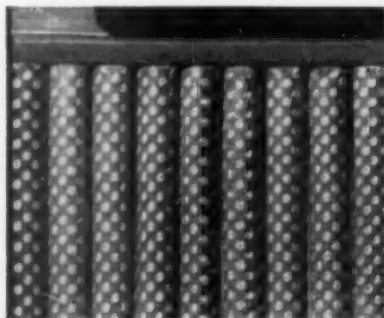
A major job, the association feels, is its help in trade practice conferences to set up or revise codes for industries. In 1956, there were nearly 1,000 such conferences, covering such fields as air conditioners, automobiles, sewing machines, and water softeners. Summing up, Assn. Pres. Victor H. Nyborg called the figures "a valuable barometer of public reaction and attitudes that business can use to check its progress in serving the public interests."



Get more work from your NEW TG EXIDE-



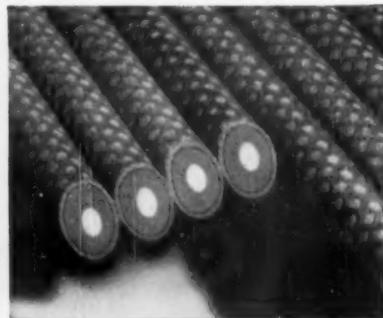
NEW POSITIVE AND NEGATIVE PLATES — DEVELOPED



New tubular construction of positive plate! Armored porous tubing. Provides resistance to corrosion and effects of vibration, improved flexibility, and maximum retention of active material. Thousands of tiny openings mean...



Greater porosity. Highly permeable tubes ease current flow, reduce internal resistance, improve access of electrolyte. Battery will deliver more power to meet sudden heavy loads. Tubes hold...



More active material. Chief source of battery power. Larger inside diameter of tubes means every positive plate contains more active material per cubic inch of plate. And for maximum capacity and long life, there's a...

electric industrial trucks

IRONCLAD BATTERY

Want more work hours—no increase in battery size? You get 44% more capacity in the new TG Exide-Ironclad Battery. For example, you can replace a 500 ah battery with a 720—in the same size. This means your trucks can do more work. They can earn a great deal more on your investment in them.

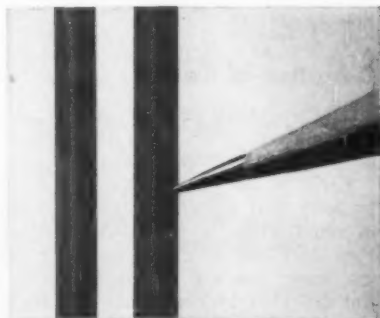
Satisfied with the work capacity of your present battery? Then get it at the lowest cost to own and operate—and get the newest, most advanced electric industrial truck on the market today.

Packs 44% more power into same battery space . . . priced to give you even greater battery economy

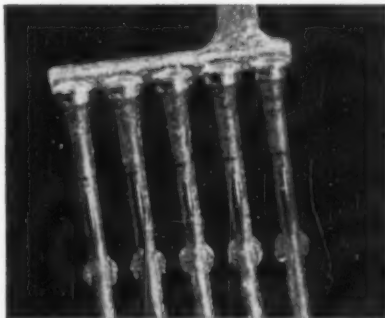
Want even lower operating cost and improved performance from your electric industrial trucks? Here Exide makes it possible. The new TG Exide-Ironclad Battery combines challenging new materials with an ingenious overall new design to produce the highest capacity per cubic inch of any battery available today. It's the most dramatic increase in capacity and the biggest step forward in power per dollar in history. This new battery can benefit every user of electric industrial trucks.

Learn more about the operating and expense advantages. Call your nearby regional Exide representative. Or write for complete information. Exide Industrial Division, The Electric Storage Battery Company, Philadelphia 1, Pa.

OUT OF RESEARCH STARTED 15 YEARS AGO



Thicker negative plate. Specially designed to match the increased capacity of the new positive plates. Plate is both thicker and stronger and possesses better electrical characteristics. You get all these advantages . . .



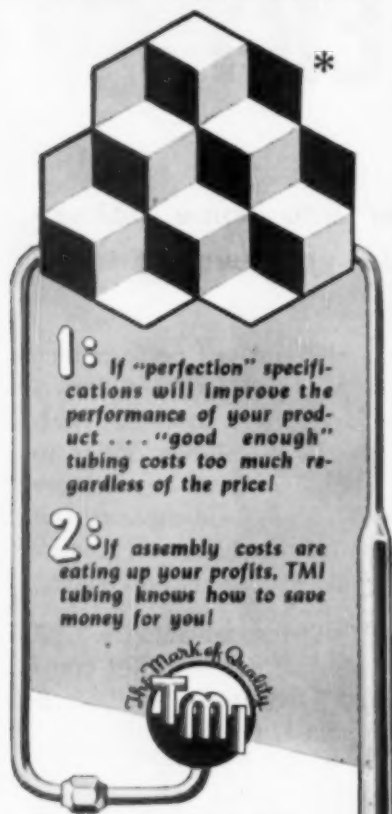
Plus Silvium,* Exide's exclusive grid alloy—proved more corrosion resistant than other leading grid alloys. Silvium is a patented combination of metals designed to prolong battery life.

*U.S. patent

Exide®

The Electric Storage Battery Company

IT PAYS TO TAKE A
"Second Look"
 AT THE QUALITY IN THE
 TUBING YOU'RE USING!



1: If "perfection" specifications will improve the performance of your product... "good enough" tubing costs too much regardless of the price!

2: If assembly costs are eating up your profits, TMI tubing knows how to save money for you!



The "second" look is typical of alert management and pioneering engineers. They know by experience that "yesterday's" quality standards leave much to be desired. In the small diameter stainless steel and special alloy tubing field, TMI is setting the pace... and serving the best. There's a reason!

**six blocks? seven blocks? ...it depends on your point of view.*

TUBE METHODS INC.

Bridgeport, Montgomery County, Pa.

MANUFACTURERS • METALLURGISTS • ENGINEERS
 SPECIALISTS IN TUBING .050 to .625" WITH
 TOLERANCES TO .001" WHEN REQUIRED

Makers and sellers of all consumer goods are finding that something new has happened to the customers. They are more knowing, have much surer and more varied tastes. Travel and mass media (cartoon) are educating these tastes still more.

Businessmen's problem: To identify these tastes and provide the variety of wares that the public demands. To give more service, offer a wider selection to the customer whose taste is still unsure. To give designers more freedom for the innovations that delight the avant-garde.

The New Customer—

"I wish my buyers had the taste my customers have," says the president of a thriving cash-and-carry store.

"A dress that sells in the bargain basement for \$2.98 has to be as right as the dress in the fashion department," says the head of a Memphis department store.

"The public expects good styling, regardless of price, and if we don't give it to them, we don't sell to them any more," echoes a top buyer in a Cleveland store.

"Go look at our bargain counters at the end of the day and see what the customers have thumbed down," advises a big New York retailer. "They know a dog when they see one."

"We can't slip inferior stuff over on the women any more," says a maker of low-priced furniture.

"There's a general striving for self-improvement that has nothing to do with vocational advancement," a Cleveland librarian comments.

"The masses are beginning to realize that serious music is not just for the white-tie-and-tails set," says a Pittsburgh Symphony Orchestra official.

These comments, miscellaneous as they are in source and viewpoint, all point to one conclusion: Something extraordinary has happened to the con-

sumer, something that affects what he wears, how he furnishes his house, and what he reads and does in his time off. Prof. Aarre K. Lahti of the University of Michigan College of Architecture & Design summed it up a couple of years ago: "For the first time in history, we are living in an era of mass taste."

• **Something New to Sell**—This change in the consumer has produced two distinct but related phenomena:

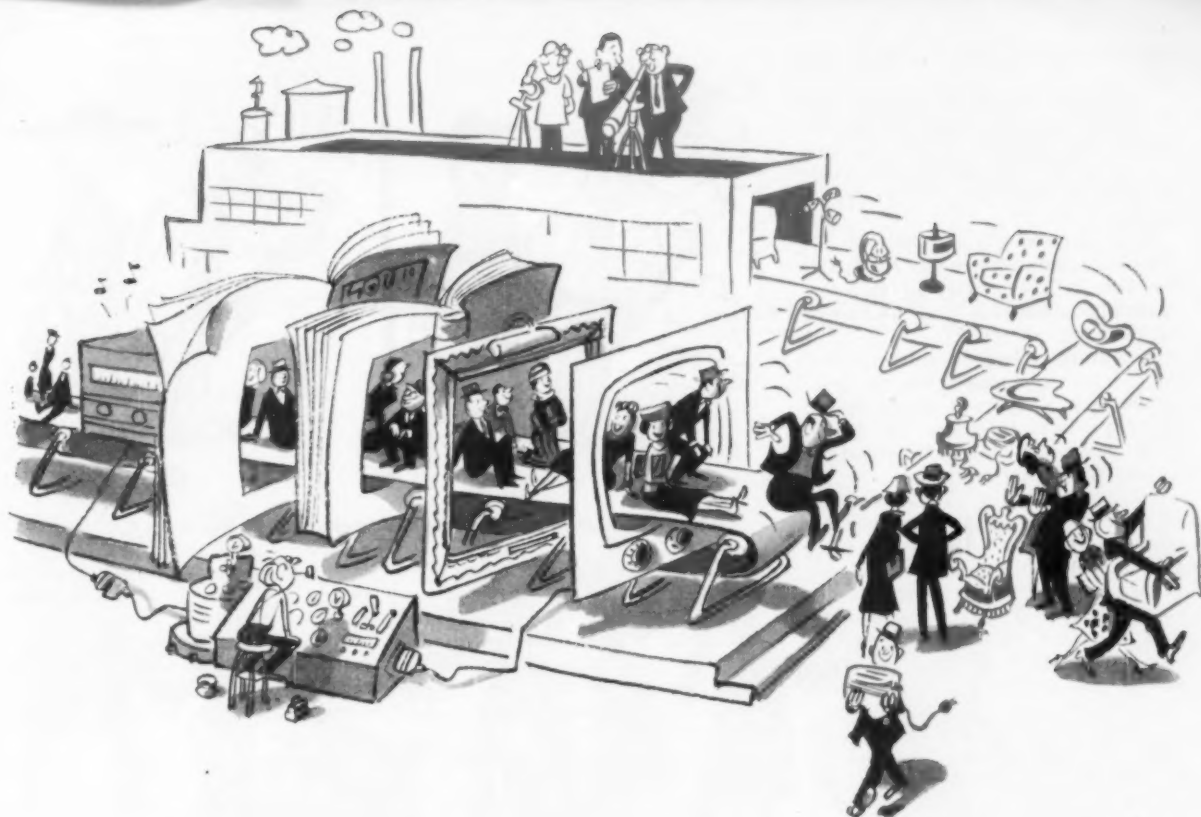
- It has created a mass market for what is loosely called "culture."
- It has shifted the whole selling base of mass merchandising from function to styling.

I. Matter of Taste

The upgrading of taste in the mass market since World War II has been nothing short of spectacular.

Each of the people quoted above probably had a slightly different thing in mind when he spoke. As designer Paul McCobb notes, "You can't define taste, but you can recognize it." But the general tenor of their remarks is the same: As never before, the mass market has—and can afford—the sort of standards the class market uses.

In his book, *The Tastemakers* (Harper & Bros.), Russell Lynes argued that



Skilled, Choosy, Culture-Hungry

the upsurge of vast fortunes in the late 19th Century built a wall between the taste of the elite and the taste of the poor and middle classes. With the Depression, the wall started to crack; since World War II, it has been crumbling fast. The Depression started the high incomes downward; the war boom brought low incomes up.

• **But Not Uniformity**—However, there's a paradox in this. Ordinarily, a gap-closing process might be expected to promote uniformity in taste, a middle-ground standardization in demand. Yet the key to demand for goods today is not uniformity but diversity.

At the lower end of the gamut of taste, consumers keep a sharp eye on what their neighbors are up to and what the shelter magazines advise them. Meanwhile, in the upper reaches of the mass taste market, the freer spirits are pushing into ever new ground. The result is a wider, more diverse range of demands for goods.

In furniture, for example, most artists and designers regard the "contemporary" look, with its accent on simplicity, as the ideal of taste. But "good" taste doesn't have to mean this look. Today it embraces a multitude of looks, variously dubbed traditional, casual, provincial, Oriental, etc. Sim-

licity of effect is still the primary mark of good taste, but homemakers can choose from among many kinds of blocks to build a pattern of simplicity.

• **Discriminating**—Moreover, with more selection of goods available that are tasteful and of good quality, the consumer can afford to indulge his own taste. With more goods on the market, he's under less pressure to buy just any chair, any automobile, any garment. This makes him freer, tougher, more independent than ever before.

Nowadays, the consumer is inclined to take it for granted that what he buys will work, will last a long time, is good looking. Now he can be fussier about other things: Does it fit into my house? Does it go with what I already have and with my family's way of living?

He is, in fact, coming close to conforming with Noah Webster's definition of taste: "The power of discerning and appreciating fitness, beauty, order, congruity, proportion, symmetry, or whatever constitutes excellence; critical judgment, discernment, or appreciation."

Manufacturers and retailers who sell him their products have to cope with his new willingness to choose and demand for a choice. This adds to the

headaches of production and distribution, but already it has helped to keep the economy pushing forward with its bounty of mass-produced goods.

II. Molding the Mass

Education, prosperity, the suburban movement, and the sales strategy of industry have all had a hand in reshaping the mass market.

Education is reaching more people than ever before. There are 39-million children in school today and, according to Dr. Donald Emery, dean of the University of Omaha School of Adult Education, nearly 30-million adults taking courses of some kind.

Anyone who escapes the classroom gets caught somewhere else. Whether he goes to a show, reads a magazine, listens to radio, watches TV, or simply goes shopping, he is bombarded by forces that, deliberately or not, make him culture-conscious and style-conscious.

• **New Way of Life**—The automobile gave Americans the mobility for eye-opening trips around the country. And the war vastly stepped up this exposure to new scenes and new ideas. It pitched GIs into Western Europe, North Africa, and the Orient—or perhaps only

into unfamiliar corners of their own nation.

The wartime and postwar boom, with its higher income, brought a better life within more people's reach. The new leisure and its focus on suburbia made the look of that life seem more important.

The extraordinary growth of the shelter magazines, especially right after the war, tells the story of the consumer's passionate interest in making his life more attractive.

• **Accent on Styling**—Industry, too, has done its part in propelling the consumer up the ladder of taste. It mass-produced better products to match the better-filled purse and, more important, it learned the appeal of styling.

There's a limit to the sales appeal of mere mechanical performance. No one questions that a toaster will toast, that an automobile will run reliably for years. As the auto companies discovered early (BW—May 5 '56, p121), the trick is to sell on style—and change. And the pressure to do this grows as any market gets increasingly saturated and competitive.

Finally—and some count this the most vital taste factor of all—the combination of industry's need for fresh styling and the consumer's new receptivity has brought the designer much greater freedom. Manufacturers are introducing new designs now that they wouldn't have dared to offer 20 years ago.

The freer consumer reacts to the creations of the freer designer in a sort of happy circle that creates a freer consumption pattern—harder to stock for but challenging to sell.

III. Thirst for Culture

Follow young Mr. and Mrs. America around for a while and you may find yourself in some unlikely places: trailing a housewife, with baby carriage, through a Detroit art gallery, sharing a course in home decoration with a lathe operator's wife, attending a "little" art film with leather-jacketed factory workers, taking a course in anthropology at a college in almost any city you could name. In short, the U.S. seems to have gone culture-mad.

In 15 cities, BUSINESS WEEK reporters asked this question: Is there a mass market for what we loosely term culture? The answer, with a few qualifications and hedges, was an overwhelming "yes."

• **Figures Prove It**—Some respondents had to rely on their personal impressions; others had statistics falling out of their hats. A random sample:

• The Boston Arts Festival had an attendance of 150,000 in 1952, up to 600,000 in 1956.

• The Detroit Art Museum



The war stepped up our willingness to accept new styles.

doubled its attendance between 1940 and 1956.

• **Membership in New York's Museum of Modern Art** has jumped from 8,000 to 23,000 in eight years.

• **Phoenix** recently had 25 art exhibits in one week; 10 years ago, three would have been a lot.

• **Houston's Civic Opera** put on seven performances this year, all to packed houses. In 1955, the city set up its Ballet Foundation, with an academy that has been self-supporting from the start and may develop a local ballet corps.

• **Ticket demand for Sunday chamber music programs in Omaha** tops capacity by 15%.

• **The Music Room of Carnegie Institute of Pittsburgh** checked out 12,000 records, mostly classical, last year, compared with 8,500 the year before.

• **Boston Symphony Orchestra** concerts have been sold out for the last 10 years. To meet demand, it opened dress rehearsals to the public after World War II, and these are sellouts, too.

• **Reading and Learning**—In the book trade, the interesting note is the way nonfiction has taken over. It looks as if reading's function as an entertainer is losing out to its function as a teacher. A Houston book dealer says fiction accounted for 65% of his sales 10 years ago, only 35% now.

Interest in adult education is not limited to the how-to courses though they pull in the big enrollment. Interest in the liberal arts is growing, too. The humanities are the backbone of the adult program at Western Reserve University, Cleveland, and at the University of Louisville, whose adult education division makes enough money to help the rest of the program. Milwaukee brags that it is a stronghold for Great Books courses.

• **Self-Improvement**—There's a marked

do-it-yourself flavor to much of the pursuit of culture. In Louisville, corner hardware stores now stock artists' supplies, and amateur theater groups have increased from 6 to 16 in the past decade. In Boston, middle and lower income customers are buying more pianos and organs than ever before; Omaha, too, sees a marked rise in sales of organs.

At the bottom of the do-it-yourself scale, the success of painting by numbers has led to sculpturing by numbers, playing music by numbers.

• **Who Did All This?**—Next to the improvement of incomes, the reason most often cited for the culture boom is that much-deviled and condemned form of entertainment—television.

No one knows how many people saw their first ballet on Robert Saudek's Omnibus or their first Shakespearian play on such programs as Hallmark's Sunday shows. But no one doubts that the number is large, that repeated exposure to drama, ballet, music on TV has made some converts.

At the same time, TV has challenged other media to upgrade. For example, the growth of the art film theaters is partly a response to TV competition. "Nobody is going to come out to the theater and pay money for a bad show," says a movie operator, "when he can see mediocre TV at home for free." TV's competition with radio strengthened the latter's devotion to music, helped to boost the growth of hi-fi. Retail sales of hi-fi components alone reached about \$166-million last year (BW—Apr. 20 '57, p83).

Magazines have also helped. From reproducing fine paintings, Life has moved into other fields, such as the great religions, the story of the universe, classic history. Look, This Week, and other magazines have followed Life's example.

New distribution methods have sprung up to serve and promote the new market: enterprises like Music-

What they don't know...can hurt you!



IF YOUR EMPLOYEES don't know exactly what their group benefits can mean to them, you employers are missing one of the prime values of your investment. What's more, you could use B. E. U.

B. E. U. means Better Employee Understanding of group insurance and pension plans. This understanding helps to remove financial worries from employees' minds, leaves them free to concentrate on doing better work and more of it.

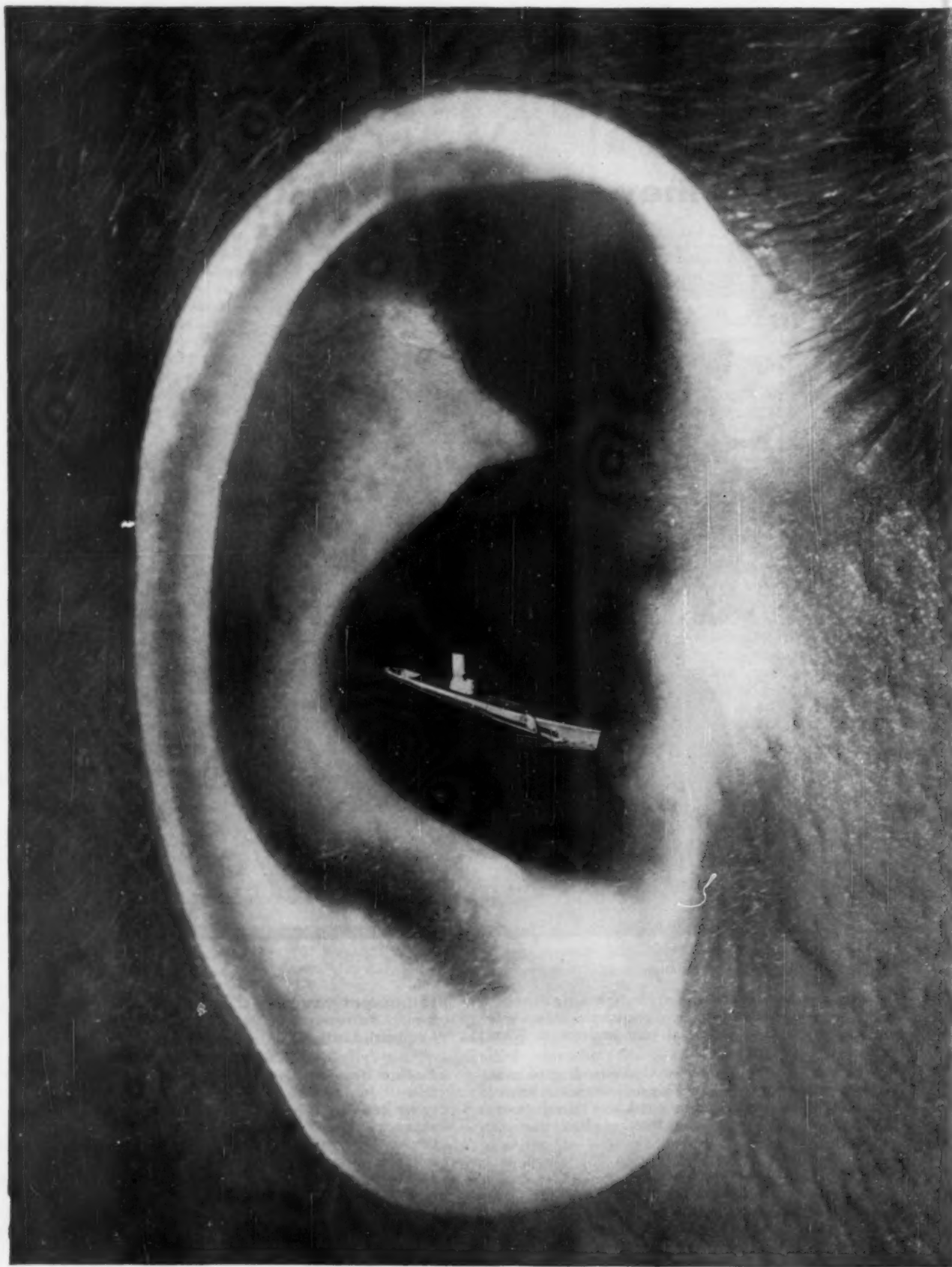
SHOULDN'T YOU know all about B. E. U.? Ask your insurance man or write to Connecticut General Life Insurance Company, Hartford 15.

Emhart Manufacturing Co., Ryan Aeronautical Co., and Spiegel, Inc. all have custom-planned Connecticut General group benefits. Take a few profitable minutes to find out about B. E. U.



CONNECTICUT GENERAL

GROUP INSURANCE
PENSION PLANS
HEALTH
ACCIDENT
LIFE



SUB TRAP

A trained ear can trap a submarine. A skilled sonar operator can separate the sound of a sub's propellers from those of destroyers on the hunt, count the prop blades, tell a sub's echo from a whale or school of fish, get its bearing and speed. But he can't learn this at sea. The cost would be prohibitive. To teach him on land, the U. S. Naval Training Device Center went to the Waldorf Instrument Division of Huyck (pronounced Hike) for a Sonar Simulator.

Waldorf designed, engineered, and now produces a simulator in which an electronic task force of aircraft and ships hunt a sub submerged in an electronic sea. The instructor can set up any sub-hunting problem and the computer will automatically create the conditions of actual anti-submarine warfare for a trainee using the very latest techniques and equipment.

Waldorf engineers and manufactures complete systems and instruments in the fields of hydraulics, electronics, and electro-mechanics. These products include instruments, computers, precision controls, test devices, simulators, servo-mechanisms, valves and actuators for industry and the Armed Forces.

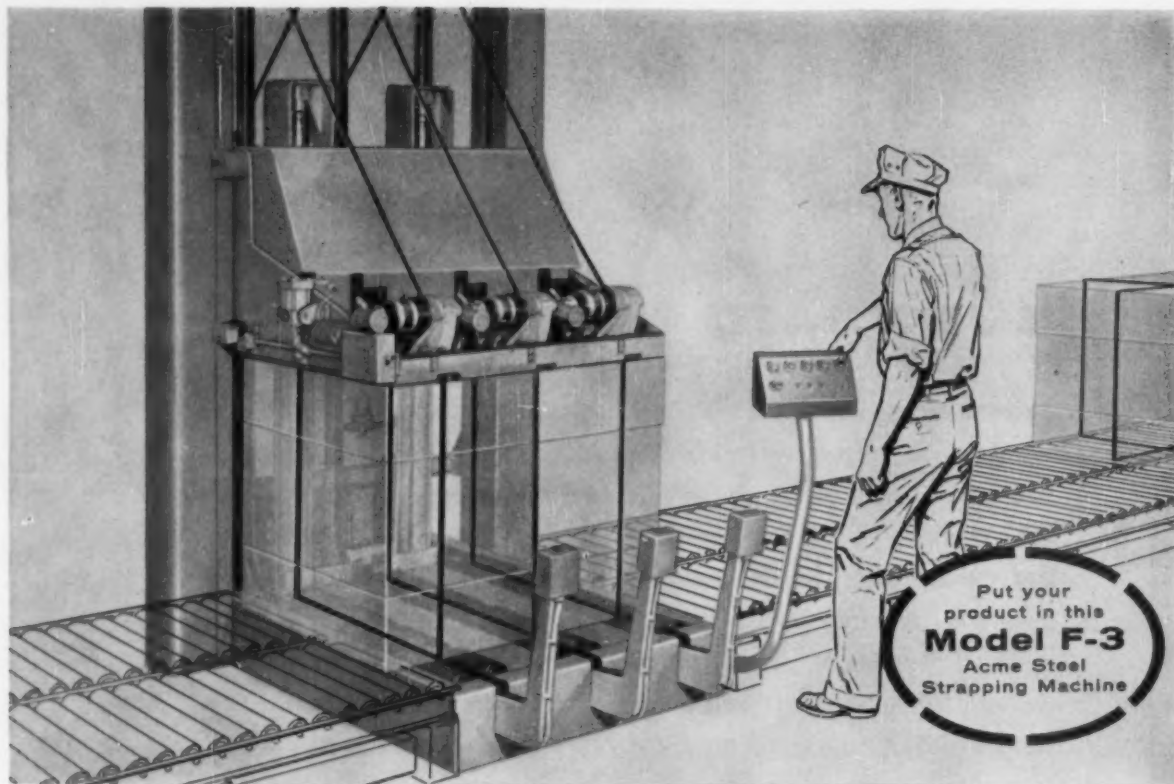
Waldorf will undertake creative solutions for your problems, military or commercial, in the development and production of precision instrumentation and controls. For brochure and further information write to Waldorf Instrument Co., Huntington Station, Long Island, New York.

WALDORF INSTRUMENT
DIVISION OF
HUYCK & SONS
F.C.

Plants at Huntington Station and Dix Hills, L. I., New York

Rensselaer, N. Y. Plants at Rensselaer, Aliceville, Ala.,
Cavendish, Vt., Peterborough, N. H., Arnprior, Ont., Canada

Interesting opportunities for qualified electronic
and hydraulic engineers exist at Waldorf.



Depend on your AIM* as others do and profit...

Automatic compression Idea aids packaging production

IN SWIFT SINGLE-OPERATION SUCCESSION the Model F-3 Acme Steel Strapping Machine compresses the pack and then tensions, seals and cuts up to three steel straps automatically. If your products pack best through application of compression, the F-3 will help you to fast, clean, economical, low-cost, high-production packaging. And varying sizes of containers can be handled without machine adjustment, varying pressure or output interruption. Operation is push-button simple and allows bands to be in place before the package enters the machine since the F-3 is the only machine that feeds strap around the package. The F-3 Machine steel straps packages up to 65" wide, 84" tall. Minimum package thickness is 12". The only machine to combine compression with steel strapping, the F-3 has an air-actuated, adjustable and completely controlled platen.

Write us for the identity of the Acme Idea Man best equipped to discuss your packaging problems.



***Depend on Your Acme Idea Man.** He is a specially trained consultant on better ways to package any product through use of Acme Steel Ideas, tools and materials. To put his experience to work for you, write to Dept. BGS-57, Acme Steel Products Division, Acme Steel Company, Chicago 27, Illinois. In Canada, Acme Steel Co. of Canada, Ltd., 743 Warden Avenue, Toronto 13, Ontario.

**ACME
STEEL**

STEEL STRAPPING

Appreciation Records, special book clubs, rental systems for original paintings. "Our rental program sells paintings to people who have never owned them before," says a spokesman of the Museum of Modern Art.

• **How Firm a Foundation?**—The question inevitably comes up: How sound is the trend to culture?

Some people in the art world see an element of faddishness in it. "The cocktail-hour approach to art," Millard Sheets, artist and director of the Los Angeles County Art Institute, calls it. Eugene Kingman, director of Joslyn Art Museum in Omaha, finds "an indiscriminate expression of taste—a striving for the biggest, bestest, mostest" that typifies period of peak prosperity but that waters down taste, rather than strengthening it.

Some educators, too, find that adult students start courses with vim but drop out when the going gets tough.

Skeptics also suggest that the nation's culture kick is at least partly due to lower prices. A San Francisco art dealer, for example, grumbles that people are buying on price, not quality: "They'll look all over for a dollar print even though they like the one at \$1.98 better."

Paperbound books have undoubtedly helped to spread culture. Doubleday & Co. sells a million copies of high-grade Anchor titles each year, at prices of 60¢ to \$1.25. Paperbacked classics have cut the cost of a Great Books course at the Memphis Adult Education Center of Southwestern College from \$50 to \$11.25.

• **Real Gain**—Most observers feel that there's a real, if plodding, advance in national culture. In city after city, they report a new receptivity to the less hackneyed art and music, to contemporary works.

"At least they don't laugh at us any more," says a spokesman for New York's Museum of Modern Art.

"And they don't walk out on Stravinsky any more," echoes a representative of the Cleveland Orchestra. For one thing, "they" have heard a lot of Stravinsky by now.

Obviously, the culture growth involves more than the people who actively seek culture, either because they are looking for mental stimulus or because they feel that the arts are important in themselves. It also covers a far larger group that doesn't particularly want it but is getting exposed to it anyhow.

IV. A Taste for Taste

Selling culture itself is a relatively small business, and many people in it aren't strictly businessmen at all. But the vast array of industry that sells consumer goods is finding it vital to keep



You find a housewife, with baby carriage, in an art gallery.

an eye on that culture market because:

• **In a mild way, culture competes with product for the discretionary dollar—and for the leisure time that so many industries hope to fill.**

• **More important, the culture boom offers valuable clues to what the mass market is looking for. Translate culture into material terms and you come up with what might be called the taste-hungry consumer.**

• **Anxious to Be Right**—The average housewife today knows more about a great many things than her mother knew. But when she goes to the store, she may react to her new knowledge in apparently contradictory ways.

Neil Petree, president of Barker Bros., Los Angeles furniture chain, reports one of these conflicting attitudes. "People used to come in and ask our decorators to take over and provide them with a lovely home," he says. "Today they come in and tell the decorator what they want."

On the other hand, says Herbert L. Seegal, senior vice-president for merchandising at Macy's-New York, "The consumer feels less secure than ever before." Otto Overby, administrator of furniture for Macy's, adds, "She knows more, but she is more anxious to be right than ever before."

• **And Insecure**—Before she lays her money on the line, the modern homemaker does an enormous amount of private research—studying ads, looking at displays, scouring the stores, reading the shelter magazines. Some then go ahead with confidence, but these independent souls are far outnumbered by the undecided, the insecure.

The sheer abundance of goods from which to choose may confuse even the housewife who has a general idea of what she wants. Some designers feel that advertising often adds to her un-

certainty by presenting a hopelessly idealized picture that she knows she can never achieve in her own home. Bad retailing technique can only throw her into a worse swivet.

This insecurity is real, according to *Paradoxes of Everyday Life* (Random House) by psychiatrist Milton R. Saperstein and Alis DeSola. The authors describe the increasing number of patients coming to psychiatrists in a state close to nervous breakdown—all because they are redecorating their homes.

However certain or uncertain the housewife is, the retailer must be able to make a sale to her. Home furnishings are a good example of the problems this entails.

V. Service Within Reason

The minute the taste-hungry, perhaps uncertain, customer comes to the store, distribution's problems start mounting.

First of all, the now knowledgeable housewife is more demanding than ever. "You can't show her a sample of upholstered furniture in two colors and expect her to buy," says an executive of Macy's-New York. A store such as Macy's may offer a single piece in a choice of 30 fabrics. But not even Macy's carries this kind of stock, so the solution is to show fabric swatches and take the customer's order. This is happening more and more in all kinds of furniture retailing.

• **Style Leadership**—The middle-priced store that aims at any kind of style leadership has another problem. Macy's Pres. Elliot Walter says, "There's no excuse for bad taste at any price." But the store can't always find tasteful merchandise at its customers' price.

Then the store must take the initial



Close to a nervous breakdown over a decorating problem.



tive, as Macy's often does in modern furniture, particularly. Macy's has a full-time staff of five designers and display people who create some of the styles the store sells. The store gets the right merchandise and also gets it exclusively.

If the stores fail to meet the taste demands of their clientele, the gap is plugged by new merchandisers such as Young Family, Inc. (BW-Dec.22'56, p51). This group was set up by Perry Meyers when his market research revealed why department stores were losing sales to young housewives—they weren't selling the contemporary furniture that young families wanted, at prices the young couples were able to pay.

• **Sales Guidance**—When it comes to the customer who doesn't know exactly what she wants, the store has a great asset in salesmen who are trained in interior decorating. But there are other ways to help the homemaker through her bewilderment at the very variety of furnishings that she herself demands.

The room display is one such device, showing whole roomfuls of furniture with the "correct" floor covering, drapery, and accessories. Macy's spends \$30,000 to \$35,000 a year to set up such displays. They pay off in sales, Otto Overby says. But they take up a lot of extra room.

Another device is coordination—of design at the factory level, of display at the retail level. The factory builds pieces—a chest, say—that can do duty in any of several rooms, along with other pieces that harmonize. The store displays them as a group, with selected accessories. This pre-selection assures the customer of items that go together well.

• **Staff Decorators**—The ultimate in customer aid is the home decorating department. Last fall, Home Furnishings Daily noted that New York stores were

adding full-time decorators to their staffs. Macy's has 10—and recently added a new specialist: a bathroom decorator.

Big stores aren't enthusiastic over decorator service, especially when it is provided free. It's costly. Moreover, the woman who decides exactly what she wants will often ask the store to get it if she can't find it in stock. Stores don't like to go outside their own stock—it cuts their profit margin—but there's a growing practice of sending hard-to-please customers to manufacturers' showrooms.

Like it or not, many retailers feel they're stuck with decorator service, which helps both the market that knows its own mind and the market that is uncertain of what it wants.

• **Risk and Profit**—The taste-conscious consumer, Macy's officials say, has made the store's job more difficult, riskier, and more expensive. The stores must buy more critically yet more enterprisingly; they must accept more responsibility to guide the customer. Since such a wide choice must be offered, a retailer must also keep a sharper eye on the ultimate criterion: What is selling from day to day. This, too, adds to the selling expense.

However, there's a potential reward in higher sales, more profitable sales. "The upshot of the change in taste," says Betty Schoenberg, national home furnishings coordinator for Sears, Roebuck & Co., "is improved sales. When a woman buys turkish towels, she sees a bathmat nearby that matches, and she buys that, too. When she gets home, she finds she needs matching curtains, maybe harmonizing paint and fixtures."

Manufacturers, too, have felt the impact of the taste market. If retailers can't carry the wide inventory that's needed for the variety of tastes, the factory must do it.

"The first thing the demand for



In 1883, Gottlieb Daimler built the world's first high revolution gasoline engine.

In 1884, Karl Benz obtained the world's first patent for a motor vehicle.

In 1926, these two pioneering manufacturers joined in a merger to form the present Daimler-Benz A. G., Stuttgart, West Germany.

Today, Daimler-Benz builds the world's finest automobiles — the Mercedes-Benz — and produces diesel powered trucks and tractors, and diesel engines from 10 to 3000 horsepower for marine, rail and industrial uses.

The company exports from Germany to 128 foreign countries through more than 1,100 agencies and distributors and operates assembly and production facilities in 27 foreign countries.

Daimler-Benz today employs 53,000 in Germany and an additional 13,000 outside Germany

Sales in 1956 were \$392,000,000.



In 1903, Orville and Wilbur Wright flew for the first time in history with an airplane and engine of their own design. Glenn H. Curtiss pioneered in aircraft development during the same period.

In 1929, the Curtiss-Wright Corporation was formed by merging the companies founded by the Wright Brothers and Curtiss.

Today, Curtiss-Wright is a leading producer of aircraft engines, missiles, propellers, electronic flight simulators, and other aircraft equipment for the military and the commercial airlines, as well as products in the fields of electronics, ultrasonics, nucleonics, thermodynamics, plastics and metallurgy. The fastest airliners in operation today are powered by Curtiss-Wright engines. A Curtiss-Wright rocket engine powered the Bell X2 to world speed and altitude records.

Curtiss-Wright employs 32,000 in 17 divisions and subsidiaries in the United States and two foreign countries and exports products throughout the world.

Sales in 1956 were \$571,000,000.



Beginning as wagon manufacturers in 1852, the Studebaker Brothers produced a 16 horsepower gasoline powered car in 1904 at South Bend, Indiana.

In 1899, the Packard Motor Company produced a 12 horsepower car at Warren, Ohio.

In 1954, Studebaker-Packard Corporation was formed through a combination of these two companies. Today, Studebaker-Packard Corporation manufactures a complete line of passenger cars, trucks, and station-wagons which are distributed throughout the world and sold by more than 2,400 dealers in the United States and Canada. The company pioneered modern supercharged engines, low silhouette jet styling, twin-traction rear axles, torsion springing and finned, air-cooled brakes.

The company's products are assembled in plants operating in 11 foreign countries.

Studebaker-Packard Corporation employs 9,000 at South Bend, Indiana.

Sales in 1956 were \$303,000,000.



DAIMLER-BENZ



CURTISS-WRIGHT



Studebaker-Packard

These three companies employing 107,000 people, with sales in 1956 totaling one billion, two hundred sixty-six million dollars, announce the signing of agreements providing for a fully-integrated program of engineering, production, sales and service of automotive vehicles; automotive, marine and industrial gasoline and diesel engines; and diesel and gasoline fuel injection systems. All of these companies have been associated for years with quality, precision manufacture and high-performance products.

Pursuant to these agreements, Daimler-Benz and Curtiss-Wright have formed an American company — Curtiss-Wright and Mercedes-Benz, Inc. — to provide for the development and sale of Daimler-Benz products in the United States, Canada, Mexico and Cuba.

Studebaker-Packard Corporation in signing the agreements will now make available to its dealers a full line of domestic and imported sports cars, convertibles, sedans and station wagons — ranging in price from under \$2,000 up to \$13,000 — gasoline and diesel powered trucks and all-wheel drive utility vehicles.

Mercedes-Benz cars and distinctive Mercedes-Benz features — such as fine coachwork, swing axles and transmissions — will be exclusive to Studebaker-Packard.

The Utica-Bend Division of Curtiss-Wright Corporation, now building diesel engines for the U. S. Navy, will import and manufacture Mercedes-Benz diesel engines and diesel and gasoline engine fuel injection systems under the agreements. The engines will range from a 4-cylinder model of 25 h.p. to a supercharged 8-cylinder model of 600 h.p.

Further agreements are being negotiated between Daimler-Benz and Curtiss-Wright Corporation for the interchange of rights for the manufacture of aircraft products.

CARL F. GIESE
President, Daimler-Benz
of North America, Inc.

ROY T. HURLEY
Chairman and President,
Curtiss-Wright Corporation

H. E. CHURCHILL
President, Studebaker-Packard
Corporation



We won't wait 'til the cows
come home to make our pitch—
for Plover Bond, of course. One good
churn deserves another, so we'd
like to suggest visibly better
Plover Bond as your letterhead paper.
Whiting-Plover Paper Company,
Stevens Point, Wisconsin.



BETTER PAPERS ARE MADE WITH COTTON FIBER

"... designers fear that industry may sacrifice good design to gimmickry..."

TASTE starts on p. 62

variety does," says Vice-Pres. Kenneth Kroehler of Kroehler Mfg. Co., "is increase the cost of carrying a large inventory of fabrics." Consumer buying from floor samples imposes on manufacturers a touch-and-go production schedule, notes Pres. D. L. Kroehler.

VI. Day of the Designer

Since styling has become a major competitive force, manufacturers have had to reconcile themselves to periodic retooling for a new look. They have also had to hire designers of their own.

Just as the manufacturer is taking some of the burden of design selection from the retailer's shoulders, so the industrial designer is relieving the manufacturer of some of the load. With the growth of public taste, the designer—an almost unknown breed until the Depression—has come into a place of responsibility.

In 1944, the American Society of Industrial Designers was formed with only 16 members. Today, despite a policy of limiting its membership, it has about 210. The Industrial Designers' Institute, working on a broader base, counts some 600 members in its 10 chapters.

Today's greater reliance on the designers may produce better design, overall. Certainly, it leads to greater variety of design.

• **Taste in Peril**—By discovering that "fitness, proportion, congruity" build sales, industry has helped the consumer to develop better taste. But the designers feel that their fight is only half won, and counter-forces are at work.

The great question, as Eric Larrabee of Harper's Magazine once put it, is whether design will become "a subordinate branch of advertising or public relations." Since manufacturers have discovered styling as a sales tool, designers fear that industry may sacrifice good design to gimmickry.

Perfection of market research and sales technology only increases this danger, designers say. Industry may conclude that the mass market doesn't really want good taste but a fancied-up ugliness. And the high degree of selling efficiency that makes the consumer more vulnerable to the merchandiser can work against good design in an economy where distribution of goods is the prime goal.

• **Narrow Margin**—Taste, says William Snaith, managing partner of Raymond



"As efficient as my streamlined kitchen," his wife said

His wife knows why he gets home on time now!

New Work-Organized Desk (a beauty, too) is really amazing help in getting day's work done

Leave it to a woman to quickly note and appreciate work-saving efficiency. But it's the *man* behind the new Shaw-Walker Work-Organized Desk who profits. He gets away from the office earlier and is less tired.

Ingenious Work-Organizing drawers provide space for letter trays, paper folio, card files, binders and other items that clutter the top of

ordinary desks. And imagine this! There's even drawer space for your telephone and waste-paper. Really ingenious!

With the desk top clear and everything efficiently organized

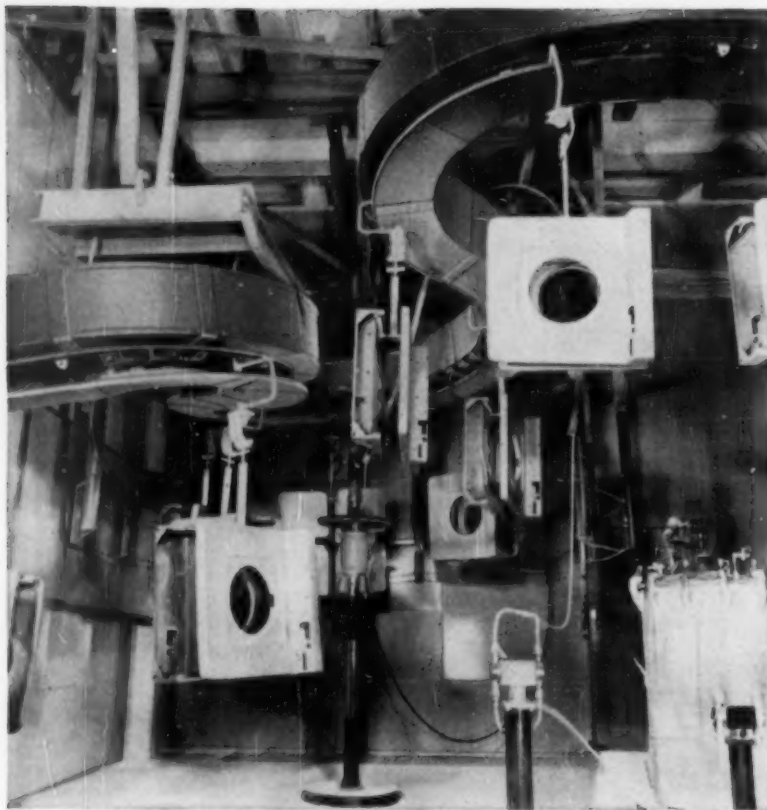
in the drawers you just can't help but do more, easier. *It's the nearest yet to desk automation.*

Our new brochure "The World's Most Advanced Executive Desk" shows how to use these desks for greater accomplishment. It also pictures all models in colorfully decorator-planned executive suites. Ask our local branch or dealer store or write Muskegon 97, Mich.



SHAW-WALKER

Largest Exclusive Makers of Office Equipment
Muskegon 97, Mich. Representatives Everywhere



Adjustable Spiral Conveyor replaces the man with the spray gun

A man, spray coating parts, swings his gun from side to side and works from top to bottom. MHS has duplicated, mechanically, this top-to-bottom movement in electrostatic paint booths with single fixed heads. A specially designed conveyor carries the parts in a rising spiral around the head and a smooth, even coat is produced.

The spiral may be adjustable, to accommodate production of longer or shorter parts.

This simple solution of a problem illustrates the MHS approach to mechanized production. Our engineers look for practical ways to bring greater efficiency, economy and productivity to our customers' plants through scientific automatic materials handling. Take advantage of 38 years of experience and success. Call in the MHS engineer.



Mechanical Handling Systems Inc.

AND SUBSIDIARIES

Manufacturing Engineers

4610 Nancy Ave., Detroit 12, Michigan

Offices in Principal Cities

FACTORIES: Detroit, Mich. • Fairfield, Iowa • Albany, N. Y. • Windsor, Ontario

"... in the past year, manufacturers have even begun to ask designers to help sell products to distributors ..."

TASTE starts on p. 62

Loewy Associates, stems from three forces: tradition, people's inherent likes, and the persuasion of advertising. "Up to a point," he says, "you can impose taste."

Snaith cites one example of the tricks that semantics can pull. Today, he points out, "gaudy" is a repugnant word, but call it "gorgeous" or "splendid" and you create a whole new attitude toward it.

This helps to make the designer's commercial relationship somewhat uneasy. Henry Dreyfuss, one of the top designers, says he has turned down clients who tend to make design a mere promotional tool. Retailers sometimes claim that manufacturers underestimate consumer taste; manufacturers contend that retailers overlook good designs in their eagerness to promote what's new.

"Not enough retailers," says Edith Evans, editor of *Living for Young Homemakers*, "get the mileage they ought to out of good design." The endless squabbles over how often an industry should bring out a new line underscores this point.

At least one designer comments bitterly that the bigger the industry, the more afraid of taste it is. The auto companies are often cited as a group that has gone haywire on styling.


• **Forces for Good**—But strong forces are working for the designers, too.

The designer generally accepts the fact that, as Julian Everett of Henry Dreyfuss says, "You can't ask a client to spend \$500,000 tooling up for a product that won't sell." And manufacturers are getting more willing to accept a designer's word as to what is good. In fact, says Walter Margulies of Lippincott & Margulies, in the past year manufacturers have even begun to ask designers to help sell products to distributors.

Furthermore, everyone realizes that you can push the consumer around only so far. "Even a Dior can't force a fashion on the public," Macy's says. In some cases, the consumer forces a modification of a design trend, as in "transitional" or gentled-down "pure design" in furniture. In others, the consumer revolts, as in today's avid buying of antiques.

• **More Freedom**—One thing is sure—the new preoccupation with taste has given designers more freedom than ever before.

Mass production has fostered this



Now...changing a ribbon is so clean and easy you can do it with white gloves on!

New Royal Twin-Pak ribbon comes rolled in two cases. Nothing to wind! Nothing to thread!

It's a snap! Lift out the old Twin-Pak... drop in the new. No more smudgy fingers!



ROYAL announces a brilliant new typewriter!

Exclusive features include Twin-Pak, the clean and easy ribbon changer that takes the dirty work out of office typing

Never before has a standard office typewriter offered you such brilliant typing speed and letter-perfect results.

New Twin-Pak makes ribbon changing so easy, you're assured of always getting a sharp, clean impression. Happier secretary, too.

And Royal's new "brilliant action" keeps her fingers flying relaxed all day long... because the touch is a good deal lighter... tailored to each finger.

Fact is, just about everything goes

faster, quieter and a good deal easier with this brilliant new Royal.

And those fashion-styled Royal-tone colors help to brighten up your office, cut down on tiring eye-glare. Your choice of Cameo Pink, Sea Blue, Willow Green, Sandstone or Pearl Gray.

INTERESTED?

Discover how this brilliant new Royal will improve your typing production. And a girl's morale. Call your Royal Representative for a free office trial.



ROYAL

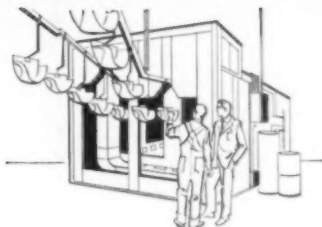
standard typewriter

Product of Royal McBee Corporation, world's largest manufacturer of typewriters



SERVICE

Service means many things. As we see it, it means more than prompt delivery of the chemical coatings we supply to industry. Because printing inks, industrial finishes, textile colors are applied under varying plant conditions and techniques, we believe it essential to know our customers' factory procedures and facilities, for our technicians to work with theirs in obtaining maximum efficiency from our products on their particular equipment. This technical service is part of every chemical coating we sell. It has helped cut production costs in many industries, and it is yours for the asking.



By on-the-job collaboration with our customers' production and technical personnel, we are often able to suggest formula adjustments which will more efficiently adapt the coating to existing facilities.

Interchemical

CORPORATION

EXECUTIVE OFFICES: 67 WEST 44th STREET, NEW YORK 36, N. Y.



IPI® and In-Tag® Printing Inks • Interchemical® Industrial Finishes • Arioye® and Interchem® Textile Colors • A & W® Carbon Papers and Inked Ribbons • Cotan® and W & W® Coated Fabrics • R-B-H® Pigment Dispersions • Albion® Refractory Clays • Angier® Adhesives

®TRADEMARK

"... even the biggest consumer industry of all, the automobile, makes a stab at diversity ..."

TASTE starts on p. 62

freedom by creating the attitude that things are disposable, says Edgar Kaufmann, former director of the Museum of Modern Art's Good Design program. Mass production makes for uniformity, according to Carl Maas, art director of Standard Oil Co. (N. J.), but the economy works toward change.

This leaves opportunities for the small and daring manufacturer, Paul McCobb suggests. Kroehler Mfg. Co., the biggest furniture maker, agrees that it's the small company, not the big one, that innovates in design. And even the biggest consumer industry of all, the auto industry, makes a stab at diversity by its building-block technique of interchangeable components (BW-Apr.6 '57,p112).

The new freedom that designers in many lines attest to pervades the media, too. Publisher Andrew Heiskell says the freedom makes his editors' job of material selection easier. The consumer responds to a wider range of subject. Despite the conventionalism of many of TV's shows today, Robert Saudek, whose Omnibus program is now about to set up on its own, feels that the cultural ice has been cracked at least, that there's room for more experiment. And it's precisely because the national networks are timid in programming that Sylvester L. Weaver feels there's a place for a more selective, more daring type of program (BW-Apr.13'57,p61). He criticizes the nets for their "sameness in programming," and adds, "This opens the whole field of program experimentation to a new force, and I will shortly be sending a signal to all the mad scientists in the entertainment and information fields to start brewing their brews."

• **Long Hope**—Finally, market research need not be a tool for mediocrity. Alfred Politz Research, Inc., contends that by learning the mechanism of how wants are created, industry can create wants for better products.

This is no pipe dream, as many experts see it. For the essential fact is that industry and commerce are striving to deal with a more highly skilled consumer, and the forces that gave the consumer his new skills show no signs of slackening.

Industry has its work cut out to sell to the person of higher taste. But its work will be even harder, and the rework will be even harder than it is, and the rewards even skimpier, if it ignores him. **END**

"Our records show that Kelly Nylon Tires roll up the greatest mileage for the least money per mile!"



You get more tire miles per dollar when you use Kellys on your trucks!

Mileage per dollar is the one businesslike standard to use in measuring the value of a truck tire. It's the standard used by experienced truck operators ... and it's the reason why so many of these truckmen use Kelly Nylon Cord Tires on their entire fleets.

Kellys are engineered to give long, dependable service under today's tough driving conditions. They last longer on the original tread and they take more recaps ... to deliver the lowest possible cost-per-mile.

The little more you pay for top-quality Nylon Cord Truck Tires will bring you real savings in the long run. Talk it over with your Kelly Dealer, or get the facts direct from: The Kelly-Springfield Tire Company, Cumberland, Maryland.



It's the Bonus Mileage in Kellys

that makes them the trucker's choice!



People Are Borrowing More

Consumer personal loans are at a record high, and are soaring faster than other forms of installment debt.

In part it's a debt consolidation process, in part a result of rising incomes; but lenders insist they are still choosy and the rise is in line with disposable income.

BENJAMIN FRANKLIN'S Poor Richard, and other money-wise purveyors of the thrift maxims of an earlier day, might look askance at the climbing line in the chart below. But bank and finance company credit officers aren't worried about the steep and steady rise in consumer personal loans.

Cash people borrow "on time" is just thrift by another name, they say—a sort of save-as-you-go; it helps people buy what they want today, instead of waiting until they have put aside the total price.

At the close of last year, U.S. consumers owed a record \$7.2-billion to banks, loan companies, credit unions, and other sources of personal loans (once called small loans). These installment loans of cash to consumers represent something more than one-fifth of the country's total consumer installment debt, which now stands at \$31.2-billion.

• **Fastest-Rising**—Right now, moreover, personal loans are showing a faster burst of climbing speed than the remaining forms of installment debt. The 1956 yearend total of \$7.2-billion was 14.8% higher than the figure a year earlier. In the first few months of 1957, the total continued to rise. Other installment debt also rose during 1956—to a total of more than \$24-billion, but the rate of rise was only about 7%.

Not only is the over-all total climbing, but the size of individual loans is growing. In 1955, the average loan made by personal loan companies was about \$268; last year it was around \$332. Today, the average credit union loan runs around \$450, the average personal bank loan upwards of \$500.

Maturities are lengthening, too—and action by lenders to stretch out repayments encourages borrowing by making things easier for the borrower on a month-to-month basis. As an example, the average loan maturity for Household Finance Corp., biggest of the country's small loan concerns, has gone up from 17.5 months in 1951 to around 22 months today.

• **Consolidating the Debt**—At first glance, the fact that personal loans

are increasing more than twice as fast as other installment debt might seem puzzling. But the difference, lenders say, points up the relationship between these forms of debt.

Today, they claim, personal loans are used as a sort of balance wheel for family finances; such borrowing enables families to pay off in one swoop a whole group of loans—reducing bookkeeping to a single monthly payment, creditors to one—and in some cases cutting total

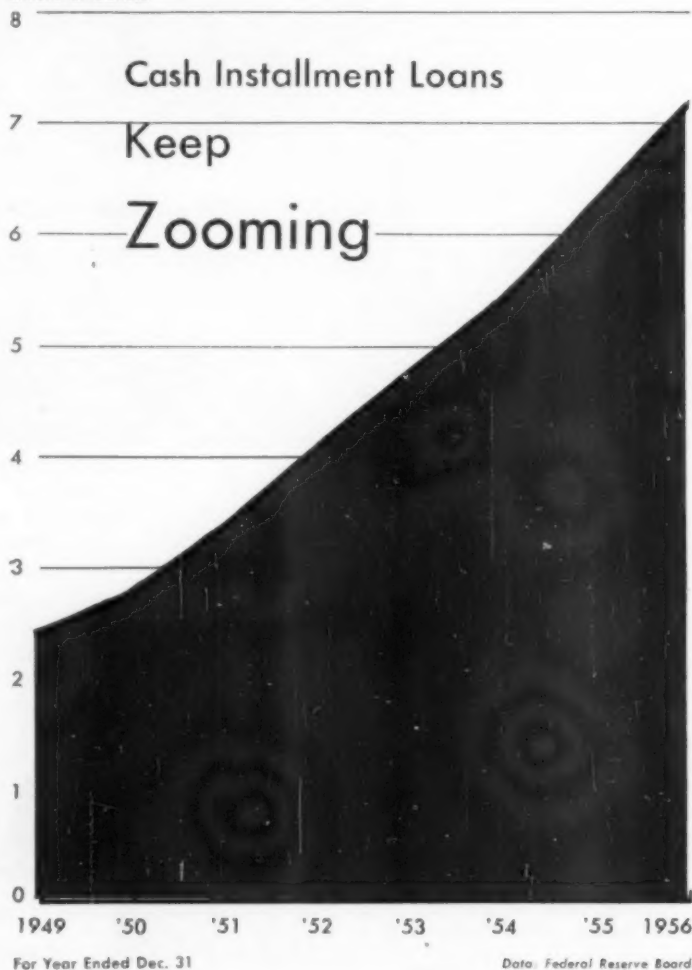
interest charges. Therefore, credit men say, when people go on a buying spree, they often follow up with a cash loan.

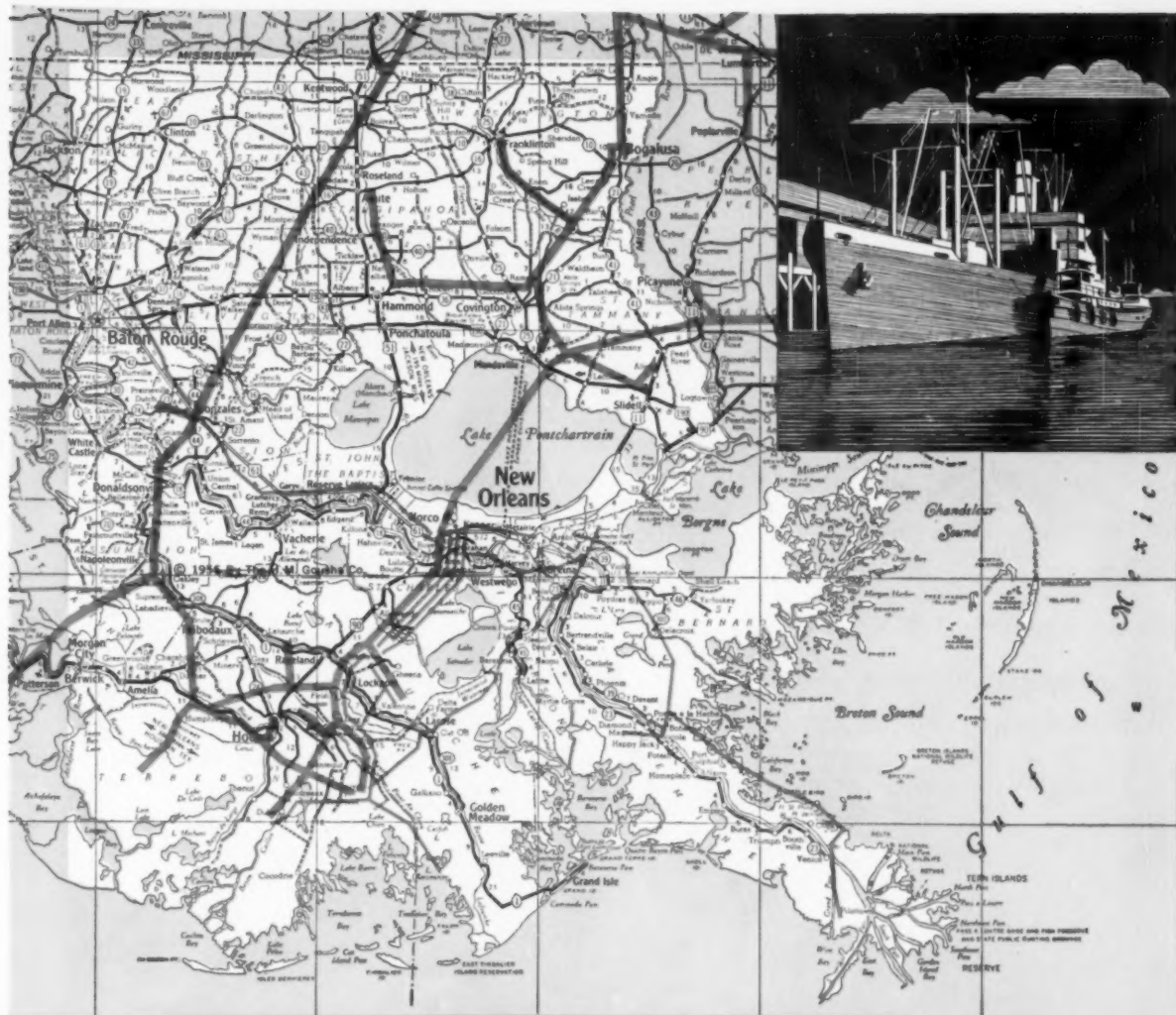
This theory seems to get some support in the figures. In 1955, total installment debt other than personal loans soared 25.2%; then buying slowed as people stopped for breath.

• **Why They Borrow**—A breakdown of the reasons for personal loans also lends confirmation. At yearend 1956, Household Finance Corp. customers had outstanding about 1.6-million loans totaling about \$540-million. Some 22% of Household's customers give consolidation of overdue bills as the major reason for borrowing.

Other major reasons listed included: medical, dental, and hospital bills (12%), travel expenses (9%), clothing (9%), automobile purchase and repair (8%), home furnishing and appliances

Billions of Dollars





SOUTHEAST LOUISIANA

...a "natural" for expanding industry

This is the tenth of a series describing the area served by United Gas. Map shows United Gas pipe lines in a portion of Southeast Louisiana.

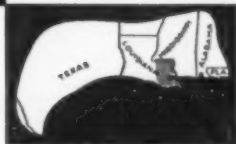
When considering a location for your new plant check your requirements against the advantages of Southeast Louisiana. If you need raw materials, water, cooperative labor . . . if you need transportation—rail, truck, airline, barge or sea-going shipping facilities . . . if you want local and regional markets and access to world markets . . . mild climate and fine recreational facilities . . . if you need a dependable supply of economical natural gas . . . you'll find them all, and many other advantages, in Southeast Louisiana. For a plant location where you can grow, look to the growing Gulf South.

UNITED GAS

SERVING THE

Gulf South

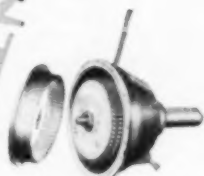
If fuel is a factor in your operation, write United Gas, P. O. Box 1407, Shreveport, La.



UNITED GAS CORPORATION • UNITED GAS PIPE LINE COMPANY • UNION PRODUCING COMPANY

Unbiased because . . .

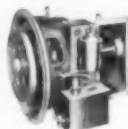
Twin Disc builds a *complete* line of friction *and* fluid drives . . . friction clutches, torque converters (both three-stage and single-stage) *and* fluid couplings. Twin Disc engineers can offer *unbiased* recommendations for *all* types of applications on industrial machinery . . . from fractional to 1000 hp.



Friction Power Take Off



Fluid Coupling



Three-Stage Torque Converter



Single-Stage Torque Converter



TWIN DISC

Friction Clutches and
Fluid Drives

TWIN DISC CLUTCH COMPANY, Racine, Wisconsin • HYDRAULIC DIVISION, Rockford, Illinois
Branches or Sales Engineering Offices: Cleveland • Dallas • Detroit • Los Angeles • Newark • New Orleans • Tulsa

(6%), assistance to relatives, household repairs, and taxes (each 5%).

When you add these together, you find that well over half the total went to pay for past purchases of goods and services. Much of this borrowing was touched off by creditor pressure—so it amounted to touching Peter for a loan to pay off Paul, thereby easing the pressure but not reducing the total debt.

• **Careful Screening**—Some see in this debt consolidation process a sort of pyramiding of loans that would enable people to keep on living beyond their means—and sometimes that may actually be the case. The lending agencies, however, insist that it's not the rule, that consumers are not in debt over their heads.

Most economists agree that lenders aren't interested in loans to poor credit risks. Restrictions, of course, vary from bank to bank, loan company to loan company, but none will make a loan to a man who's not likely to pay. One indication of their caution, as well as of the solvency of borrowers, is that net losses due to non-payment are running at record lows—about 1% a year, give or take a fraction. This, of course, could testify to the efficiency of the loan companies' collection procedures as much as to the wisdom of their lending policies.

Lenders say all loan applications are carefully screened and a good many requests are turned down—perhaps as many as 25% on the average. Today, as family finances become more complex, the screening is becoming even more thorough.

Whether all lending agencies are this careful seems problematical, however. Even the trade admits it knows of credit unions, small town banks, and smaller loan companies that often fail to take such pains.

• **Crux**—As a rule, though, the key point is the borrower's cash flow—his fixed obligations vs. his expected income plus liquid assets. If the two are uncomfortably close, he won't get the loan. What counts, in other words, isn't how much the consumer borrows, but his capacity to pay.

Banks usually won't O.K. a loan request if a borrower's installment debt exceeds 10% or 11% of his income—and he has to be a good credit risk to begin with. Personal loan companies permit a slightly higher limit—up to 25%. Some credit unions are still more lenient.

• **Over-All Picture**—If you look at the economy as a whole, you find that total installment debt in the U.S. at the end of 1956 stood at 11% of disposable income—that's total personal income after taxes. Disposable personal income is at a record \$286.7-billion a year. The 11% slice for installment debt is also

Precision high-carbon strip steel with
uniform thickness, finish, and grain structure
to meet today's exacting design
and fabrication requirements.

Wallace Barnes Steel Division

ASSOCIATED SPRING CORPORATION

General Offices: Bristol, Connecticut

World's Largest Manufacturers of Precision Mechanical Springs

CONVENIENT MANUFACTURING DIVISIONS Coast to Coast

WALLACE BARNES CO.
Bristol, Connecticut and
Syracuse 9 (Solvay), N.Y.

THE WILLIAM D. GIBSON CO.
1800 Clybourn Ave., Chicago 14, Ill.

RAYMOND MANUFACTURING CO.
Corry, Pennsylvania

BARNES-GIBSON-RAYMOND DIV.
40300 Plymouth Rd., Plymouth, Mich.
and Ann Arbor, Michigan

MILWAUKEE DIVISION
341 E. Erie St., Milwaukee, Wis.

OHIO DIVISION
1825 E. 1st St., Dayton, Ohio

CLEVELAND SALES OFFICE
22700 Shore Center Ave., Cleveland, Ohio

SEABOARD PACIFIC DIVISION
15001 So. Broadway, Gardena, Cal.

DUNBAR BROTHERS CO.
Bristol, Connecticut

F. N. MANROSS AND SONS CO.
Bristol, Connecticut

THE WALLACE BARNES CO., LTD.
Hamilton, Ontario, Canada

Whether **SELLING CANDIES**
or **BUILDING CRANES . . .**

KREOLITE **Wood Block Floors**

Serve Every Need Economically



In the stores of a well known Mid-west candy store chain, Kreolite Floors have served well for as long as 30 years, meeting every requirement of cleanliness and durability.

Strange as it may seem . . . candy stores and crane building plants do have something in common. Both use Kreolite Wood Block Floors and have found they serve their individual needs ideally.

Because these floors are resilient, they absorb noise, shock and vibration. Finished with Kreolite Jennite, they are cleaner and safer because they are dustless, spark and skid-proof.

Find out why Kreolite Wood Block Floors also provide greater comfort with their cushioning effect. Find out too, why these floors are more durable. Write us today.

A leading manufacturer of industrial cranes installed its first Kreolite Floor in 1938. Because of their ability to withstand rugged abuse, additional Kreolite Floors were installed recently.



THE
JENNISON - WRIGHT
CORPORATION
TOLEDO 9, OHIO



For gym floors and vocational shops,

KREOLITE FLEXIBLE STRIP*
resilient flooring is tops.

*Made of Kiln Dried End Grain Southern Yellow Pine Wood Block in Natural Color

KREOLITE WOOD BLOCK FLOORS

Railroad Switch and Industrial Truck Ties, Piling, Bridge and Deck Lumber

the biggest ever; in 1950 it was only 7%.

Many economists prefer to take the relationship of loan repayments to disposable income as the test, because this shows the actual cut taken out of current income. In 1956, repayments were 12.9% of disposable income.

Some observers have doubts about the validity of either yardstick. For one thing, the figures include consumers who hold no debt—and one-fourth of middle-income consumer spending units (the biggest borrowing group) are debt-free. So the debt-income ratio is higher for units that do hold installment debt.

There's another side to the picture, too. Consumers are still saving, although the rate has been slowing down recently. Last year-end, according to the Securities & Exchange Commission, consumers had assets (including liquid savings, securities, insurance, and pension reserves) of about \$27-billion. This compares with \$26.1-billion in 1955—and only \$21-billion in 1954, \$12.2-billion in 1950.

• **Spurs**—All of this points to some basic reasons for the upward climb of personal loans—though one reason, removal of the stigma once attached to going into debt, is perhaps more psychological than economic.

But borrowing is also encouraged by the increase in real income as earnings rise ahead of rising prices; consumers with more free cash feel able to go into debt because they know they will be able to pay it off. With the debt stigma gone, they feel free to give in to the urgings of the nation's advertisers to "live it up," and to the invitations of the lenders.

Paradoxically, the rise in savings may have its effect, too. Lenders say a good many borrowers actually have enough in their bank accounts to cover their loans, but feel that if they used their savings there wouldn't be the compulsion to replace them that there is to repay a loan.

Other factors play a part, too:

- Hospital and medical insurance, private and government pension funds, and disaster compensation have generally eradicated—justifiably or not—much of the once-prevalent worry over possible adversity.

- Higher prices of autos and appliances lead to larger-size loans.

- There are more things consumers are willing to borrow to pay for—vacation travel, children's schoolings, power tools, hi-fi components.

- The discount house, which asks cash on the barrelhead, is another factor contributing to the rise of cash installment loans.

- **State Laws**—Another factor affecting total loan figures is the spread of state small loan laws that regulate loan com-

Renee Reifel

She wants to know what we did with the \$401,518,000



RENE E REIFEL is a secretary in the marketing department of Union Oil. She is also—through our Employees' Incentive Plan—one of our 5,906 employees who hold shares in the firm.

This entitles her (along with over 65,000 other people who own shares in Union Oil) to a report on the 66th year of business of the 47th largest industrial company in the country.

In 1956 our customers paid us \$401,518,000—a new record.

How we spent it

We spent 72.1% of this—or \$289,481,000—with over sixteen thousand other companies and individuals with whom we do business.

The more than 1000 tax collecting agencies took another 3.7%, or \$14,830,000. This does *not* include the \$74,120,000 we collected from our customers as fuel taxes and turned over to governmental agencies.

Wages and other benefits for our workers and their families amounted to 15.7%, or \$62,966,000 of our income.

This left 8.5%—or \$34,241,000—as net profit. Slightly more than half of these earnings—\$18,261,315—were paid in cash dividends to Renee Reifel and our other 65,000 share owners.

The balance of our net earnings—equal to 4.0% of our customers' dollars—we reinvested in the company in order to stay in business.

The new ownership

It seems to us this report does more than give an account of our stewardship to Renee Reifel and our other owners.

It points up the broader base of ownership of American business. In the last four years, for example, the shareholders of all companies listed on the New York Stock Exchange increased by 33%. Union Oil did even better—41%.

This could happen only in a freely competitive economy that encourages and rewards individual effort.

* * * *

YOUR COMMENTS ARE INVITED. Write: *The Chairman of the Board, Union Oil Co., Union Oil Bldg., Los Angeles 17, Calif.*

Union Oil Company OF CALIFORNIA

MANUFACTURERS OF ROYAL TRITON, THE AMAZING PURPLE MOTOR OIL

When cold steel
has to flow...



KEELER BRASS CO. specifies KEYSTONE "XL" WIRE

KEELER BRASS
CROSS RECESS
HEAD SCREW

Take a blank of cold steel wire—lock it up tightly in a die, pound one end into a cone-shaped ball, form the head, then punch a deep recess into the head—all at the same time. Roughly, that's how you go about making a screw like the one shown here. Only at Keeler Brass Company, Grand Rapids, Michigan, they cold head these screws in machines that turn them out like a machine gun spits out bullets! The tricky operation is driving the recessed cross deep into the head. This used to present a problem of excessive head cracking and rejects. Tough on dies, too!

Keeler Brass solved the problem by switching to Keystone "XL" Wire. Now their punches turn out considerably more pieces per punch—rejects are 5% lower—quality is up.

Consider the parts *you* manufacture or buy: they may be "naturals" for cold heading. Talk it over with your heading specialist. He'll gladly give you the names of Keystone "XL" Heading Wire users. For more information, fill in the coupon.

Keystone Steel & Wire Company, Peoria 7, Illinois

KEYSTONE WIRE FOR INDUSTRY



KEYSTONE STEEL & WIRE COMPANY Peoria 7, Illinois

Mail coupon for free COLD HEADING FACTS! Discusses methods, technical facts, wire requirements and other data.

Name _____ Title _____
Company _____
Street _____
City _____ State _____

panies (limiting loans to anywhere from \$300 to \$1,000—though a few states have no limit—and interest on unpaid balances to 2% to 3½% per month). In states without such laws, loan companies must adhere to usury laws (on the books in all but four states), which set maximum permissible rates ranging in the main from 6% to 12% a year. Most consumer loans aren't possible at these rates, because lending costs are too high. But as a rule there are some illegal operatives—whose loans are not reported.

• **Competitors**—Of the \$7.2-billion personal loans outstanding at last year-end, small loan companies and credit unions (BW—Apr. 6 '57, p84) accounted for roughly \$2.3-billion each, commercial banks for about \$2.1-billion.

There is a certain amount of competition among these three agencies, but usually the banks go out for the best credit risks, the credit unions limit loans to members, and the rest of the field is open to loan companies. Banks and loan companies have been falling behind, however; the loan companies' share of total business dropped from 40% in 1949 to 32.7% last year, the banks' share from 37.6% to 29.3%. The credit unions got the difference.

Last year banks increased their personal loan business by only 9.9%, while small loan companies gained 14.6%, credit unions more than 21%. One reason the banks fall behind may be that they can't expand their area of operation. Another reason may be that banks are getting more choosy about taking on any but the best credit risks.

FINANCE BRIEFS

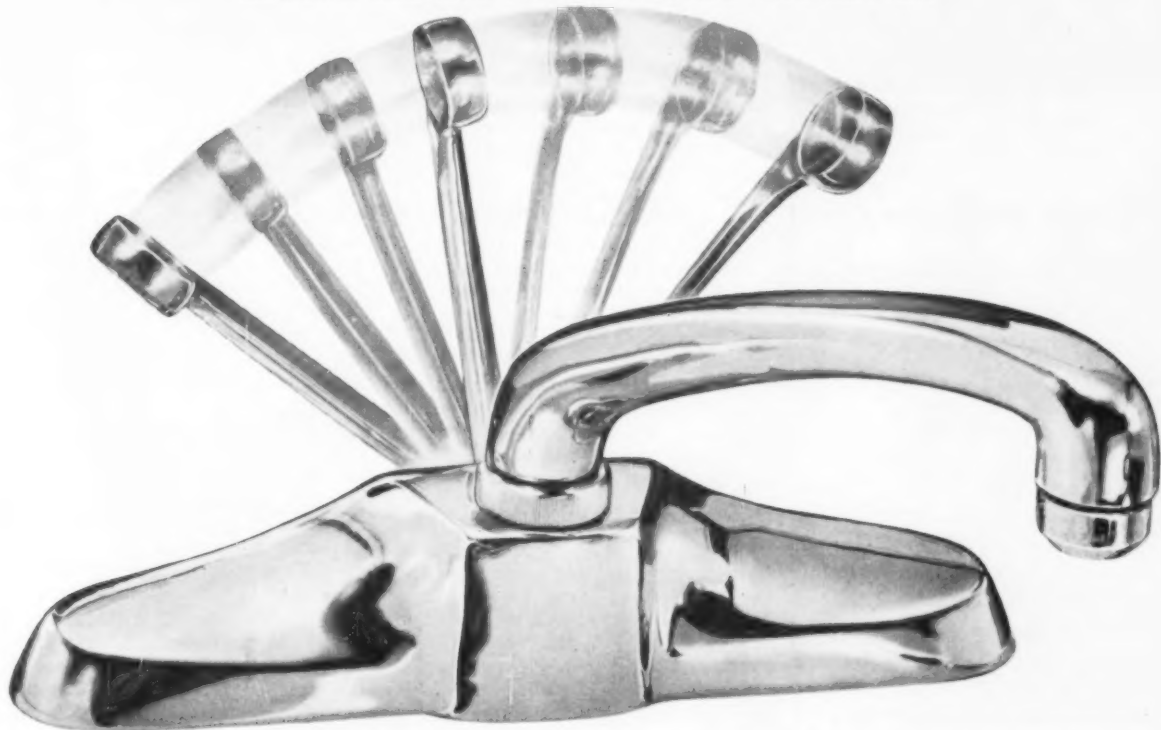
The building supply trade had sharply curtailed earnings in the first quarter, with the decline in homebuilding a major factor. Net income of U. S. Gypsum Co. was 15% below the 1956 period; Armstrong Cork Co. was off 23%, Johns-Manville Corp. 28%, National Gypsum Co. 34%, Crane Co. 68%.

Allied Stores Corp. has arranged a \$15-million mortgage loan with Prudential Life Insurance Co. to finance its new North Shore Shopping Center in Peabody, Mass.

Installment borrowers from New York's smaller (under \$30-million assets) banks can now get low-cost life insurance to cover the debt until it is paid off. The state insurance department has O.K.'d a cooperative plan worked out by the American Bankers Assn. and underwritten by Boston's John Hancock Mutual Life Insurance Co.

PICTURE REPORTS FROM AMERICAN-Standard

ALWAYS SEEKING WAYS TO SERVE YOU BETTER



New single-lever faucet won't drip! Push it to the left—it mixes water from lukewarm to hot. Push it to the right—it mixes from cool to cold. Forward it's on; back it's off . . . and no

dripping! It's convenient, easy to use, and a beautiful fitting. A product of Plumbing and Heating Division of American-Standard . . . "Always seeking ways to serve you better."



How would you keep it warm? In winter, when Boeing doors open for a B-52, cold blasts rush in. But Kewanee Reserve Plus Rated Boilers quickly pick up temperature, keep whole plant comfortable. A product of Kewanee Boiler Division of American-Standard . . . "Always seeking ways to serve you better."



Air Conditioning helped this house win a prize! An ingenious air conditioner easily added to the American-Standard furnace gives year-round comfort to this house, winner of a *House & Home* 1957 Merit Award. Products of Air Conditioning Division of American-Standard . . . "Always seeking ways to serve you better."

AMERICAN-Standard

In the United States: AIR CONDITIONING DIVISION • AMERICAN BLOWER DIVISION • AMERICAN SUPPLY DIVISION • ATOMIC ENERGY DIVISION • C. F. CHURCH DIVISION • DETROIT CONTROLS DIVISION • KEWANEE BOILER DIVISION
PLUMBING AND HEATING DIVISION • ROSS HEAT EXCHANGER DIVISION • TORONTO IRON DIVISION • YOUNGLOUIS KITCHENS DIVISION • In Canada: AMERICAN-Standard PRODUCTS, CANADA, LIMITED • In Europe: MEAL STANDARD
Standard "®" and "American-Standard" are trademarks of American Radiator & Standard Sanitary Corporation.





Type of deepwater mobile submersible drilling barge presently under construction for offshore drilling operations.

Basic progress in basic industry

*Another year
of advance for
Olin Oil & Gas
Corporation*

Olin Oil & Gas Corporation is now in its third year of operations. Its properties, which include 1189 miles of wholly and jointly owned gas transmission pipe lines, were formerly operated by the Standard Oil Company (N.J.). An aggressive exploration program is under way.

Significant figures from the Annual Report

	Dec. 31, 1956	Dec. 31, 1955
Total Operating Revenues	\$28,252,870	\$23,623,503
Net Income	1,943,946	239,294
Preferred stock dividends declared	98,650	73,968
Total assets	46,677,061	44,904,367
Property, plant and equipment—Net	37,258,340	38,328,697
Current assets	8,762,004	6,413,190
Current liabilities	5,042,968	4,273,398
Long-term debt	25,981,300	27,859,300
Earned surplus	2,294,294	447,097
Paid-in surplus	6,722,531	6,722,531
No. 4% preferred shares (\$50 par)	49,325	49,325
No. common shares	2,755,413	2,755,413

OLIN OIL & GAS CORPORATION

and subsidiaries
New Orleans, Louisiana

For a copy of the 1956 Annual Report, write to: The Secretary, Olin Oil & Gas Corporation, P. O. Box 1482, Monroe, Louisiana.



Posting Checks by Electronics

New Jersey bank installs first Post-Tronic to help handle its bookkeeping. The maker claims it will pay for itself within three years by saving labor costs.

The day of automation in banking came a small, determined step closer last week, when New Jersey's Passaic-Clifton National Bank & Trust Co. officially posted the first check on its Post-Tronic, billed as the world's first electronic machine designed just for posting. To celebrate the occasion, the machine was operated by Stanley C. Allyn, board chairman of National Cash Register Co., maker of the Post-Tronic.

In the infinitely expensive and complex field of electronic computers, the Post-Tronic is relatively cheap. A single unit costs about \$11,000; NCR figures that the average order from a bank will run from six to eight units. NCR claims that this cost factor will overcome the reluctance of a lot of bankers, shying away from other electronic equipment despite obvious advantages (BW—Mar. 30'57,p105).

• **Clerkly Costs**—Banks, of course, have been finding it hard to get workers to handle many of the more repetitive chores involved in ever increasing services, of which the nation's 9-billion checks a year are just one aspect. What clerks they have found have come increasingly high; nationally bank wages have been going up a cumulative 4% a year.

At first blush, electronic equipment has looked like the best answer. But small- and medium-sized banks have balked at the cost. The electronic stuff is costly enough in any industry; it's especially so in banking where the complexity of the chores to be done has meant tailor-made equipment instead of standard designs. On top of that comes maintenance, an item proving higher than some banks expected.

The Post-Tronic, according to National Cash Register, cuts comfortably under this cost barrier. The company figures that its universal use would more than halve the time required in posting those 9-billion checks that move through the banks. Furthermore, by eliminating man-errors, and the time spent in tracking them down, it would give the individual bank a 50%-60% saving in man hours required to post and prove work. NCR says that each Post-Tronic should save its own cost within three years.

• **The Manual Way**—In usual banking procedure, these chores enter into the posting of checks: The account card is selected, aligned in the posting machine, the old balance and check count

(cumulative number of checks drawn on the account) are picked up, and the check is posted. Banks generally insist on two clerks being in on the operation, to minimize the chances of error.

Post-Tronic, says NCR, improves vastly on this method. To begin with it eliminates the need for the second pair of eyes and hands. Post-Tronic takes the check, posts the new amount on the correct line, casts—and verifies—the new balance. On top of that, the machine will protest at over-drafts and boggle at checks against which there are stops or holds. The only manual operations are selecting the right account card, and feeding in the amount of the check.

Any failure in the Post-Tronic—mechanical or electronic—causes a red light to flash and makes further posting impossible. "Down time" because of an electronic failure is minimized by the fact that all units in the Post-Tronic are the same and interchangeable. Replacement of any defective unit is as simple as changing a radio tube and can be done in a moment by a posting clerk.

The secret of Post-Tronic's operation is a magnetic film on the back of the account card. Each entry on the card makes an impression on this film, and the machine is rigged to pick up all the information it needs from prior entries. Stop and hold orders recorded in the card will automatically interrupt the posting operation.

• **ERMA's Feats**—Since it involves two manual operations (selecting the card and putting in the figure to be posted), Post-Tronic is less "automated" than the larger and costlier ERMA—Electronic Recording Machine—Accounting—developed by the Stanford Research Institute for the Bank of America. ERMA can identify account numbers preprinted in magnetic ink on checks and deposit slips, select the proper account card by itself by referring to a memory drum, and refile the card after posting.

But Post-Tronic, according to NCR, is nicely suited to the smaller bank that cannot afford ERMA. It claims to have \$15-million in orders from more than 100 U.S. and Canadian banks.

As for the Passaic-Clifton bank that started up its Post-Tronics last week, it expects to use its six units to handle its roughly 30-million checks a year. Until now, it has been using 14 conventional posting machines to do the job. **END**



THIS TOO IS MERRITT-CHAPMAN & SCOTT



TENNESSEE PRODUCTS & CHEMICAL CORP.

NASHVILLE, TENNESSEE

"An Industry Serving All Industry"

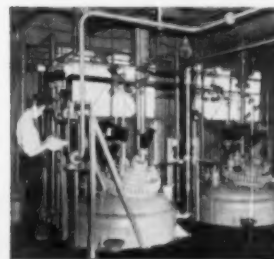
Chemicals: Heavy, Aromatic and
Agricultural; Plasticizers, Filter Aids
Metallurgical Products: Ferroalloys,
Pig Iron, Foundry Coke
Fuels: Coal, Coke, Charcoal,
Charcoal Briquettes
Building Materials: Mineral Wool
Insulation, Perlite Lightweight Aggregate,
Acoustical Plaster, Cast Iron Soil Pipe
& Fittings, Wood Preservative



A major part of Tennessee operations is
conversion of coal from TP&CC mines to
coke, chemicals and other by-products
vital to industry. Here glowing coke
is being "pushed" from one of
44 coke ovens.



New \$10,000,000 ferroalloy plant with
12 electric furnaces has gone into
operation as TP&CC expands facilities
to meet all-time high demands
for ferroalloys.



Expansion also keynotes Tennessee's
chemical operations. Modern facilities,
including two new production units,
are employed in the manufacture of
Benzoflex plasticizers and other
aromatic chemicals. Reactors shown
are typical of glass lined equipment
used throughout TP&CC plants to
assure highest quality products.

Recd Opportunity for Chemical Engineers; Write Howard Reeves, Director of Research, Tennessee Products & Chemical Corp., Chattanooga, Tenn.

<p>INDUSTRIES OF MERRITT</p>	<p>CHEMICAL, PAINT AND METALLURGICAL DEPARTMENT</p>  <p>BEVON & RAYMOND CO., INC. TENNESSEE PRODUCTS & CHEMICAL CORP.</p>	<p>CONSTRUCTION DEPARTMENT</p>  <p>CONSTRUCTION OF EVERY TYPE</p>	<p>SHIPBUILDING DEPARTMENT</p>  <p>NEW YORK SHIPBUILDING CORP.</p>	<p>HIGHWAY TRAILER DIVISION</p>  <p>HIGHWAY TRAILER CO.</p>	<p>MILTON STEEL DIVISION</p>  <p>MILTON STEEL</p>
--------------------------------------	--	--	---	--	--



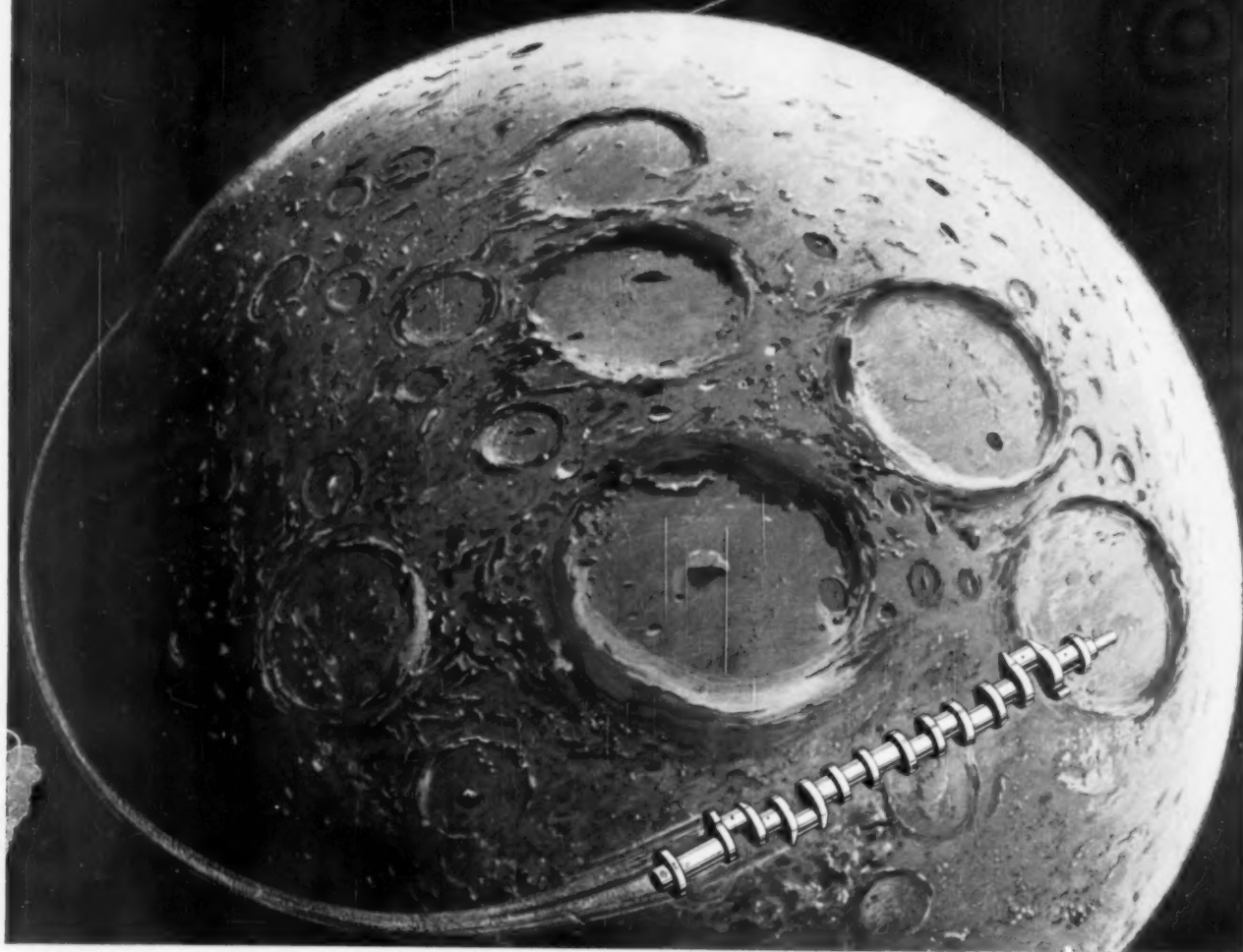
YOUR CONFIDENCE IS JUSTIFIED WHERE THIS FLAG FLIES

**MERRITT-CHAPMAN
& SCOTT**
CORPORATION

FOUNDED IN 1860

261 MADISON AVENUE • NEW YORK 16, N. Y.

To the Moon and Back.





...twice!

Over a million miles—but that's only a normal trip for crankshafts by Ohio. In routine maintenance operations crankshafts in Diesel locomotives are periodically removed for inspection. Many of them, after a million miles of service, show less than 1/1000 inch of bearing wear and are, of course, returned to service.

The Ohio Crankshaft Company is the world's leading independent producer of precision crankshafts and camshafts. Our products are used in Diesel locomotives, heavy-duty trucks, buses, ships, tractors, earth-moving equipment, and stationary Diesel installations.

What makes them last so long?

The most modern precision equipment, plus 35 years of experience go into the production of crankshafts by Ohio. Another important reason for their extra long life is the TOCCO* process of induction heating, originally developed by The Ohio Crankshaft Company as a method of providing super-hard bearing surfaces without affecting the original ductility of the crankshaft core. This method not only produces a superior product, but accomplishes in seconds what used to take hours—even days—with conventional heat treating methods.

Today, the TOCCO process has developed into a major Division of our business. Thousands of TOCCO induction heating machines are at work in all kinds of metal-working plants—heating a myriad of parts for hardening, brazing, melting, annealing and forging and forming applications.

Nearly always, when TOCCO replaces conventional heat-treating methods, the result is a better product, faster—and at much lower cost.

The Ohio Crankshaft Company

3800 Harvard Avenue • Cleveland 5, Ohio

*Trademark Registered U.S. Patent Office

Cut painting costs in half!

...with MILCOR Steel Roof Deck

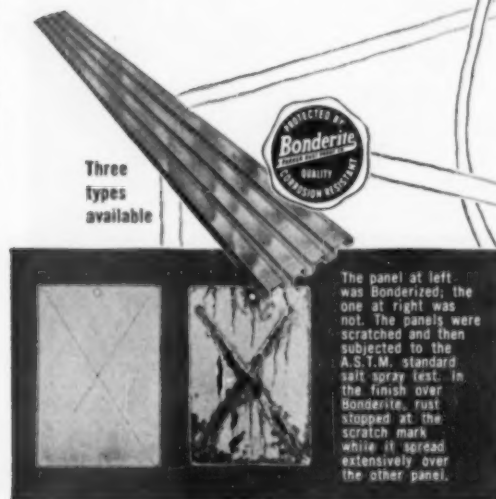
One field coat over Milcor's Bonderized, baked-enamel primer gives better protection than two coats over ordinary prime finishes.

You get these exclusive advantages in Milcor Steel Roof Deck:

1. Bonderizing which fortifies metal against corrosion and anchors paint to metal like nothing else can.
2. Epoxy-resin enamel baked to a smooth hard finish over the treated metal.
3. Surface damage from shipping and erection reduced to the absolute minimum.
4. *Big savings* in field painting. On Milcor's special light gray surface, one coat does a better job than two coats on ordinary roof decks.

Despite these exclusive advantages, Milcor Steel Roof Deck costs no more than ordinary deck! See Sweet's Catalog File 2d/InL or write for Catalog No. 240.

MILCOR® STEEL ROOF DECK



Three types available

The panel at left was Bonderized; the one at right was not. The panels were scratched and then subjected to the A.S.T.M. standard salt spray test. In the finish over Bonderite, rust stopped at the scratch mark while it spread extensively over the other panel.

INLAND STEEL PRODUCTS COMPANY

Dept. Q, 4041 West Burnham Street, Milwaukee 1, Wisconsin

ATLANTA • BALTIMORE • BUFFALO • CHICAGO • CINCINNATI • CLEVELAND
DALLAS • DENVER • DETROIT • KANSAS CITY • LOS ANGELES • MILWAUKEE • MINNEAPOLIS
NEW ORLEANS • NEW YORK • ST. LOUIS

RD-6

Playing Safe

Wiesenberger survey shows that 10 major trusts concentrated their first-quarter buying in defensive issues.

There's one question that always intrigues the denizens of brokerage house board rooms all over the country: What are the professional money managers doing with the portfolios of investment trusts? Are they buying? Are they selling? And either way, what stocks?

The question takes on extra interest in uncertain market periods like the present (page 39). But there's one big catch: It is very hard to get an answer. Before the fact, the pros just aren't talking about their plans. Even afterwards, they're silent as clams until they have to come up with the quarterly operating reports that are required by law.

• **Eagerly Awaited**—The reports, of course, can hardly be classed as up-to-the-minute dope, but just the same it gives a pretty good line on how the pros have been thinking within fairly recent time. As such, the reports are eagerly awaited by many smart but non-professional investors and traders.

Some of these do their own research; others rely on such surveys as the one just issued by Wall Street's Arthur Wiesenberger & Co., covering the first-quarter activities of 10 large investment companies—six open-end and four closed-end.

The House of Wiesenberger, which is accepted in the Street as the Boswell of the investment trade, found very little first-quarter change in the cash positions of the funds. The three with the largest cash holdings had balances ranging from 9% to 13% of net assets.

• **Defensive Shares**—The survey says that purchases made by the trusts "generally speaking, were in defensive groups. Bank and finance company shares, insurance stocks, industrial machinery, and steels were bought on balance. Railroads, air transport, electric-electronic shares were generally sold. Purchases and sales were about balanced in drugs, nonferrous metals, oil and natural gas, paper and pulp."

Aircraft and airline groups were particular targets of selling. For the aircrafts, twice as many were sold as bought; for the airlines, the ratio was four to one. The rail stocks were sold just as heavily, with the rush to sell ranging from the speculative issues to those most highly regarded. In the electric-electronic group, the heaviest selling hit the leading issues. **END**

INDUSTRIAL PLANTS CORPORATION

America's Foremost Industrial Auctioneer, Announces the Most Impressive Program of "Blue Chip" Liquidations in the History of American Industry

AUCTION SALE

HEAVY STAMPING & SHEET METAL, WELDING, TOOL ROOM & PRODUCTION, PAINTING & CONVEYING MACHINERY & EQUIPMENT; \$900,000 REFRIGERATOR HARDWARE & \$400,000 STEEL & METALS INVENTORIES

By **AVCO MANUFACTURING CORPORATION**
Order of **CROSLY REFRIGERATION PLANT**
RICHMOND INDIANA

Sale Dates: TUES., WED., MAY 7 & 8, '57
at 10:30 A.M. (DST) Each Day. Inspection starts May 3.

\$1,000,000 VALUATION
TOOLROOM, STAMPING & PRODUCTION MACHINERY
COMBINED SURPLUS OFFERINGS OF:
CURTISS WRIGHT CORP., CURTISS WRIGHT PROPELLOR DIV., U. S. AIR FORCE, PANEL MACHINE CO., DUNWELL METAL PRODUCTS

TWO SALE LOCATIONS, BOTH TO BE SOLD SAME DAY
225 Warburton Avenue, Hawthorne, New Jersey
and
Passaic Ave. & Allwood Rd., Clifton, New Jersey
(Passaic Ave. exit on Rt. 3)

(Free Bus transportation available on sale date between sites)

Sale Date: May 28, '57 — 10:30 A.M. (DST)
Inspection: May 24th to sale date.

2 OUTSTANDING SALES OF SURPLUS MACHINE TOOLS; HEAT TREAT & PLATING EQUIPMENT; FACTORY & MILL SUPPLIES; OFFICE FURNITURE & BUSINESS MACHINES

By Order of the Board of Directors
of the

STUDEBAKER-PACKARD CORPORATION
1850 East Grand Boulevard Detroit, Mich.

Sale Dates: TUES., thru FRI., JUNE 11th thru 14th,
'57 at 10:00 A.M. (DST) each day.

Inspection: June 4th to sale date.

and
TUES., WED., THURS., JULY 9th, 10th, 11th, '57
at 10:00 A.M. (DST) each day.
Inspection: July 5th to sale date.

SURPLUS ULTRA MODERN FOUNDRY EQUIPMENT, CLEANING, FINISHING & TOOLROOM MACHINERY

By order of

THE YALE & TOWNE MFG. CO.
East Gate — Canal Street Stamford, Conn.

Sale Date: June 20, '57 — 10:30 A.M. (DST)
Inspection: from June 17 to sale date

AUCTION SALE

\$5,000,000 AUTOMOTIVE PARTS MANUFACTURING PLANT and 4 1/2 MILLION POUNDS OF METAL

By Order of **PRESSED METALS of AMERICA, Inc.**
MARYSVILLE MICHIGAN
(4 miles south of Port Huron, 54 miles north of Detroit, Rt. 25)
Sale Dates: TUES., WED., THURS., MAY 14-15-16, '57
at 10:30 (DST) Each Day. Inspection from May 10
Many Machines New As Late As 1956

HEAVY STAMPING, TOOL ROOM, PRODUCTION & MATERIAL HANDLING MACHINERY & HEAT TREATING EQUIPMENT OF A PROMINENT FARM IMPLEMENT MANUFACTURING PLANT ATWATER PLANT

1350 Atwater St. Detroit, Mich.

Sale Date: Thurs., June 6, '57 at 10:30 A.M. (DST)
Inspection: June 3 to Sale Date

Due to Retirement from Business

\$1,000,000 ULTRA MODERN PRECISION TOOL & JIG MANUFACTURING PLANT

of the

MARS ENGINEERING & MANUFACTURING CO.
3000 N. San Fernando Road Burbank, California

Sale Dates: TUES. & WED., JUNE 18 & 19, '57
at 10:00 A.M. (PDT) Each Day.

Inspection: June 12 to Sale Date.

PRACTICALLY ALL MACHINERY & EQUIPMENT PURCHASED NEW 1951 to 1956

FOR SALE

By Order of the Board of Directors of the
STUDEBAKER-PACKARD CORPORATION

The \$9,500,000 FAMOUS AUTOMATION ENGINE LINE

Formerly Used by the Studebaker-Packard Corporation
50500 MOUND ROAD at 23 MILE ROAD
UTICA (Suburb of Detroit) MICHIGAN

featuring: **ULTRA-MODERN AUTOMATION CYLINDER BLOCK, CYLINDER HEAD and FEEDER LINES SUCH AS CRANKSHAFTS, PISTONS, CONNECTING RODS**

Installed New in 1954 and 1955

This is a Negotiated Offering Made Subject to Prior Sale and will not be sold at Auction.

All Machinery and Equipment Sold Piece by Piece — No Confirmation Necessary

Free Illustrated Detailed Circular Sent on Request

All Sales Under Exclusive Management of

INDUSTRIAL PLANTS CORPORATION

AUCTIONEERS — LIQUIDATORS — APPRAISERS

90 West Broadway — BARclay 7-4185
316 So. La Salle St. — Wabash 2-7315

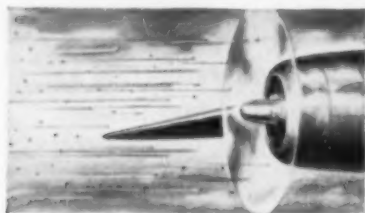
New York 7, N. Y.
Chicago 4, Illinois

TOLEDO — DETROIT



Give your product this tough armor cladding

If the products you make must take a beating from erosion or abrasion, Lector-Cladding with *super-hard nickel* may very well be your answer—as it was in the case of Hamilton Standard propeller blades.

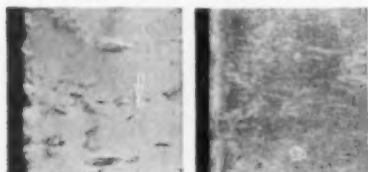


Bombardment of trap rock leaves propeller blade unscathed

In a recent dramatic test, a twin-engine airliner was equipped with one blade of unplated aluminum and another that had been nickel-plated by the Bart Lector-Clad process. The plane was taxied onto a runway covered with loose trap rock. The volley of rock sucked into both blades left the unplated prop chewed and gouged. The nickel-clad blade emerged practically unscratched. Lector-Clad is now "standard" on many leading planes, commercial and military.

Bart Lector-Clad process is adaptable to the functional plating of many products and parts in which resistance to erosion, corrosion, and contamination are vital performance factors. Nickel at hardness never known before is just one of the materials that can be Lector-Clad to a wide range of base metals. Other metals include chrome, copper, gold, and rhodium.

For assistance on any problem that plating might solve, Bart offers one of the most extensive research and development departments in the electro-plating industry. Always available for consultation service.



Unplated aluminum blade (left) shows deep gouges and chewed edge after trap rock bombardment. Lector-Clad blade (right) shows little effect from identical exposure.

BART

MANUFACTURING CORPORATION
ELECTROFORMING • PIPE LINING & COATING
PLATERS • PUMPS • ENGINEERING DESIGN SERVICES
229 Main St., Belleville 9, New Jersey



DEPOSITORS lined up in the rain last week to withdraw their money in a . . .

Run on Three Chicago Banks

After three hours in which savings bank depositors withdrew more than \$875,000, Illinois state auditor closed the banks for liquidation. Deposits aren't insured.

You don't often see a run on a bank these days, but it happened in Chicago last week to three related savings banks.

Shareholders and depositors of City Savings Assn., a mutual company, and Chicago Guarantee Savings Assn. and First Guarantee Savings, stock companies, queued up at the tellers' windows on a Thursday morning, in lines that stretched out into the rain-drenched street (picture).

By noon, State Auditor Elbert S. Smith closed the banks, pending reorganization or liquidation. But in three hours, people had withdrawn more than \$875,000—more than twice as much as in the whole previous month.

Few of the depositors had known that their savings were uninsured. The state auditor said some would get back only 85¢ to 95¢ on the dollar.

• **Newsbreak**—The run was touched off by newspaper stories that the banks were in trouble. Bank examiners had found as long ago as mid-February that liabilities exceeded assets by \$330,000 to \$1.2-million.

The report was an open secret in press and banking circles in Chicago but wasn't made public, for fear of just such a run as finally occurred. State Auditor Smith said he released the report when he learned that C. Oren Mensik, principal owner of the three companies, was about to bring a \$2-million damage suit against him.

"Mensik started the runs himself by making public the examiners' findings," Smith said.

Mensik's suit charges that the auditor and his aides conspired to "steal" his banks, that they exceeded their authority in taking over the banks without better proof of misuse of funds. Mensik contends that the auditor cannot, under state law, bring charges of mismanagement against a bank.

• **Hodge Connection**—The three banks total about \$49.5-million in assets: \$36.4-million for City Savings, \$5.5-million for Chicago Guarantee, \$7-million for First Guarantee. They have 32,000 depositors, mostly laborers and factory workers. They were formed in 1954 and 1955, built up deposits by advertising 4% annual interest (according to the auditor, actually paid to less than 2% of depositors) and by giving TV sets and appliances to big depositors.

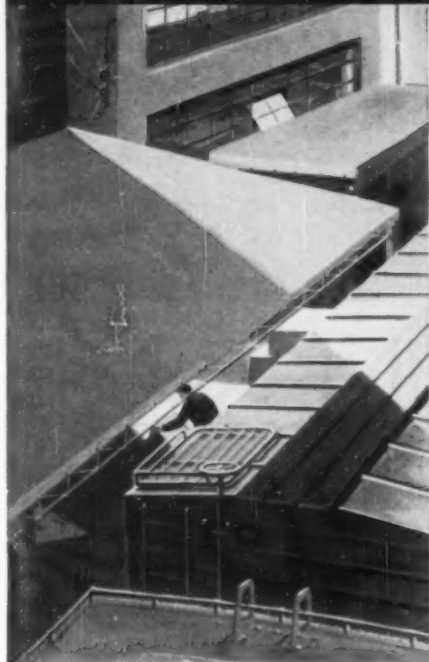
Last July, former State Auditor Orville Hodge (BW-Oct.13'56,p28) gave Mensik's banks permission to invest up to 20% of their book value in office buildings and land. Under Illinois law, a state-chartered bank is limited to 5%, unless the state auditor otherwise permits. Three days after granting this permission, Hodge resigned under charges of forgery and embezzlement.

Investigation by Smith revealed that Marianne Barto, longtime Mensik employee and secretary for the three banks, was also secretary for construction companies that sold the real estate to two of the banks. City Savings had lent \$840,000 to the construction companies and Mensik had lent at least \$50,000 to Hodge. **END**

Rubberized nylon fabric is used in this collapsible fuel tank. Wellington Sears supplies only the base fabric, not the finished product.



**Fill 'er up
or cover up
...fabric
lends a hand!**



The canvas over this loading platform comes from the industry's leading line of heavy-duty fabrics.

You never know where industry will find still another job for fabrics. At some familiar siding, a rugged canvas cover does its job well in protecting men and merchandise. And a thousand miles from nowhere, nylon "works" with rubber to help set up amazing, dropped-from-the-air "filling stations."

While these are quite different, in their uses, they are alike in this major respect: the mills of West Point Manufacturing Company produce both fabrics, and they are supplied to the nation's leading processors and distributors by Wellington Sears. They're just a part of the textile service we've been offering to all kinds of industry for over a hundred years. Which is why we think it makes good sense for you to bring all your fabric problems here, *first*.

For informative booklet, "Fabrics Plus," write Dept. C5-1.

Wellington Sears

FIRST In Fabrics For Industry

For the Rubber, Plastics, Chemical, Metallurgical,
Automotive, Marine and Many Other Industries



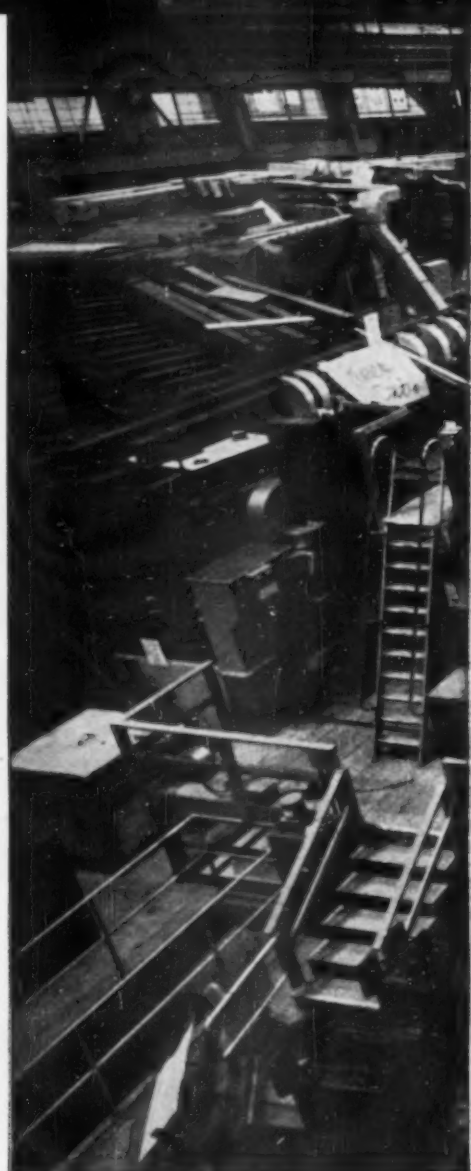
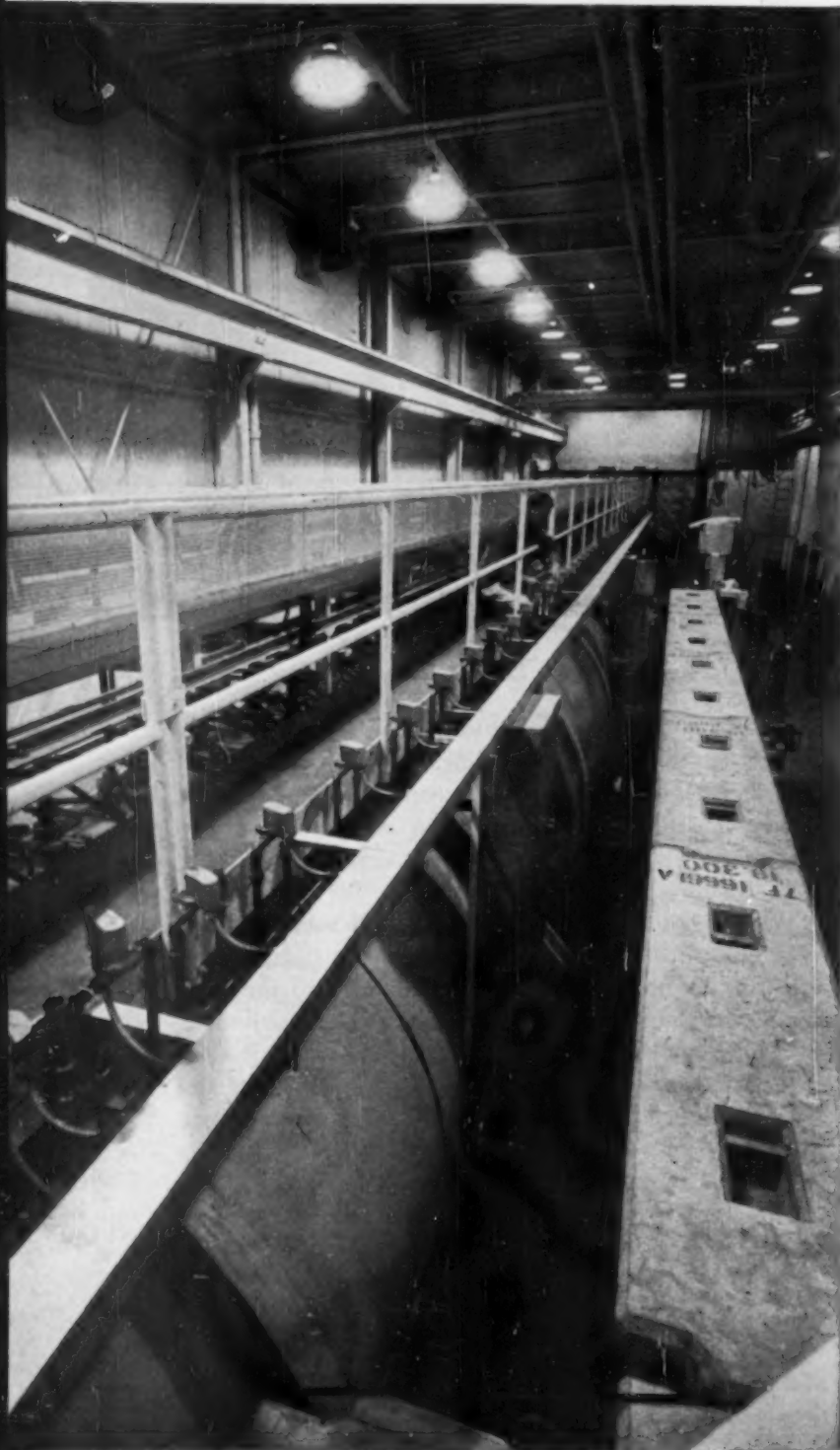
WEST POINT
MANUFACTURING CO.

Wellington Sears Co., 65 Worth St., New York 13, N. Y. • Atlanta • Boston • Chicago • Dallas • Detroit • Los Angeles • Philadelphia • San Francisco • St. Louis

RESEARCH

BIGGEST atom-smasher in Berkeley Radiation Lab, its Bevatron (right) whirls particles around circle 4-million times in 1.85 sec.

LATEST of University of California's atom-smashers at Berkeley, the HILAC (below), has research advantages in "straight shots" through a 90-ft. "gun barrel."

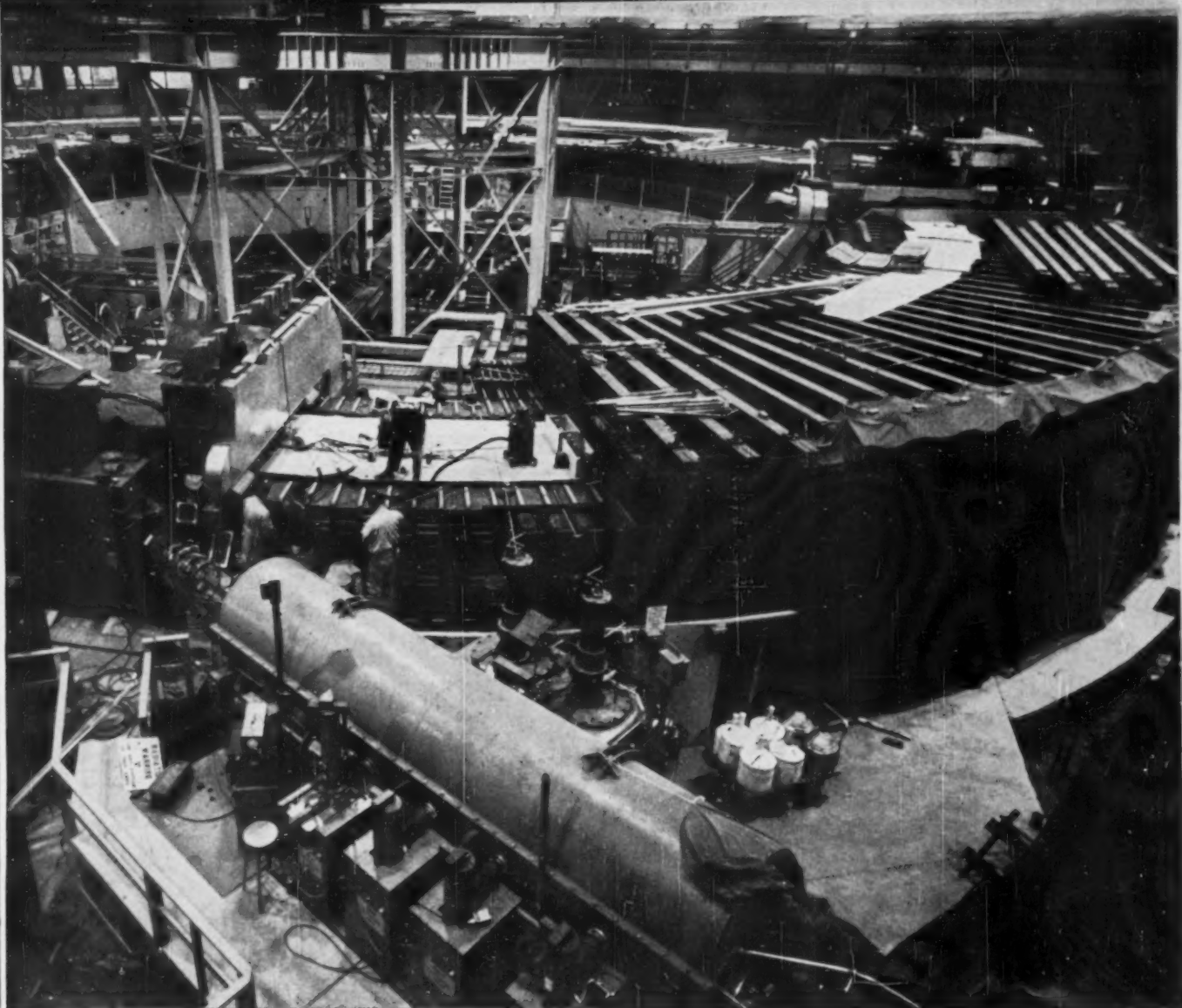


Ready for

University of California's HILAC accelerator (left) opens a fresh chapter in nuclear physics research, making possible many new lines of study.

When the University of California put its \$1.7-million heavy ion linear accelerator (called HILAC for short) into operation last week (BW-Apr.27-'57,p151), it opened a new chapter in nuclear physics research, as well as a new chapter in the long story of the university's own trail-blazing contributions in the field.

HILAC (picture, left) is designed as a new type of atom-smasher—as another



New Tricks in Atom-Smashing

version of the basic research tool for the study of nuclear particles and atomic energy.

One thing that distinguishes the HILAC type of atom-smasher from others is this: It hurls its invisibly small nuclear bullets at their atom targets through a long, straight tube like a vastly lengthened gun barrel (left), instead of first whirling them up to the necessary astronomical speed in a spiral or circular orbit, as in cyclotrons or the University's huge Bevatron (above). HILAC differs from earlier straight-shooting atom-smashers in using heavier bullets.

• **Portents**—What this elephant-gun atom-smashing may eventually bring

in terms of fundamental knowledge or industrial advance, few can now even guess—as few could have seen the blueprint of an atomic power reactor in the University's first cyclotron in 1930. But in terms of immediate research advances, HILAC will enable the University's Berkeley Radiation Laboratory to do a number of things not previously possible. They will use it to:

- Synthesize and study elements heavier than mendelevium (element 101)—the heaviest element so far observed by man.

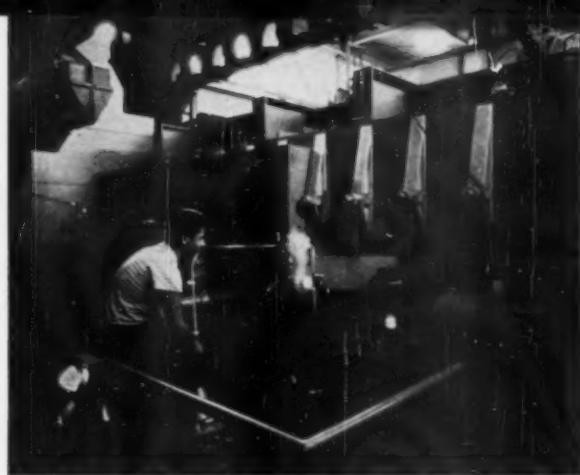
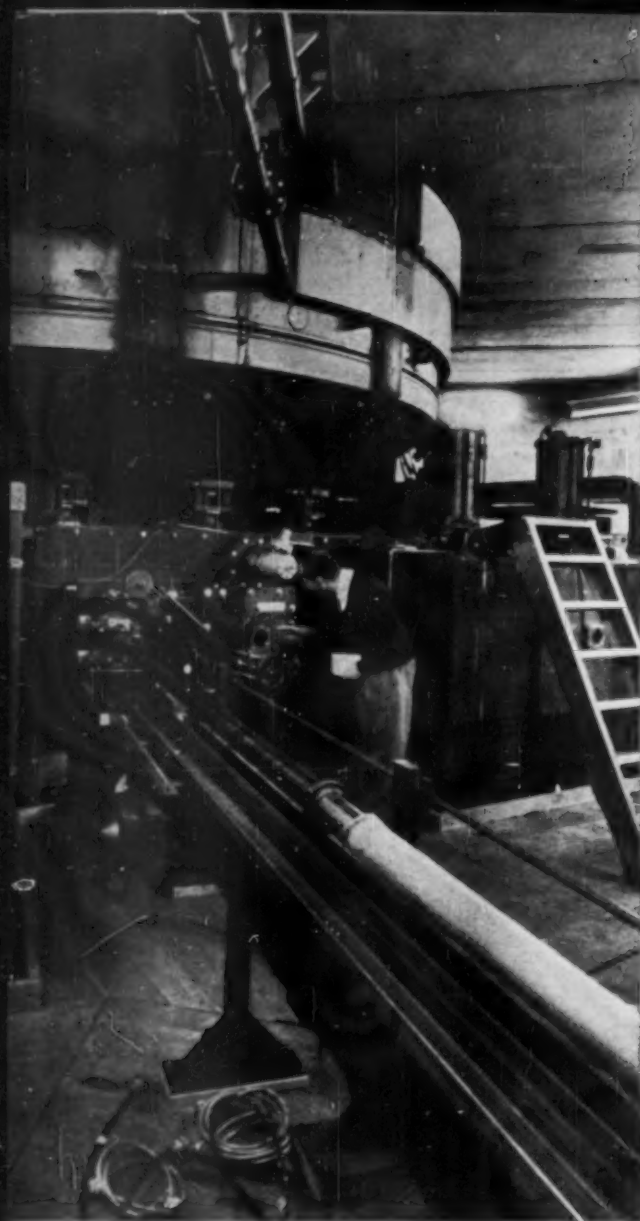
- Explore, from a new angle, many of the now mystifying theories about nuclear forces.

- Open up new lines in the study

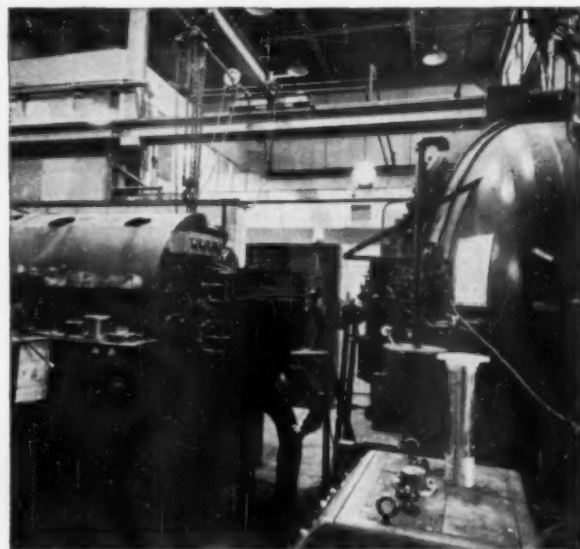
of the whole group of elements that includes radium and thorium—studies that have been hampered by lack of adequate research facilities.

- **Starring Role**—You can get an idea of what these new lines of research may mean from what has come out of the Berkeley lab in the past. Since 1930, when Nobel Laureate Ernest O. Lawrence, present director of the laboratory, first developed the cyclotron, Berkeley has played a starring role in U.S. atomic research.

During World War II, the lab did important work for the Manhattan Engineer District, developing the electromagnetic separation process for producing uranium 235 that was later ap-



CONTROL ROOM of cyclotron's bigger brother, the synchrocyclotron, speeds particles up to 10,000 revolutions in 1/1000 sec.



PREDECESSOR of the new HILAC as "straight-line" atom-smasher was LINAC (linear accelerator), with "barrel" only 32 ft.

CYCLOTRON (left) is oldest member of University of California's atom-smashing family of instruments.

Story starts on page 94

plied on an industrial scale at Oak Ridge. Its chemists were instrumental in developing the plutonium separation process now used at Hanford, Wash. By discovering how to transmute thorium into fissionable Uranium-233, Berkeley researchers added thorium (page 187) to the world's nuclear fuels.

Other equally vital, if less immediately spectacular, research accomplishments have poured in recent years out of the Radiation Lab, high on a hill overlooking San Francisco Bay:

- In the physical sciences, the lab has discovered or created 10 previously unknown elements—mainly in the group from element 93 (neptunium) to element 101 (mendelevium). Its discoveries include plutonium and curium.

- It has turned up hundreds of radioactive isotopes of the commoner elements, such as carbon 14 and hydrogen 3. These isotopes have been of inestimable value as tracers in medical research, and Radiation Lab scientists have done important radioactive tracer work in the experimental treatment of cancer, diabetes, and arteriosclerosis.

- Berkeley was first to produce and make an extensive study of mesons, the elusive particles that form the glue of the atomic nucleus.

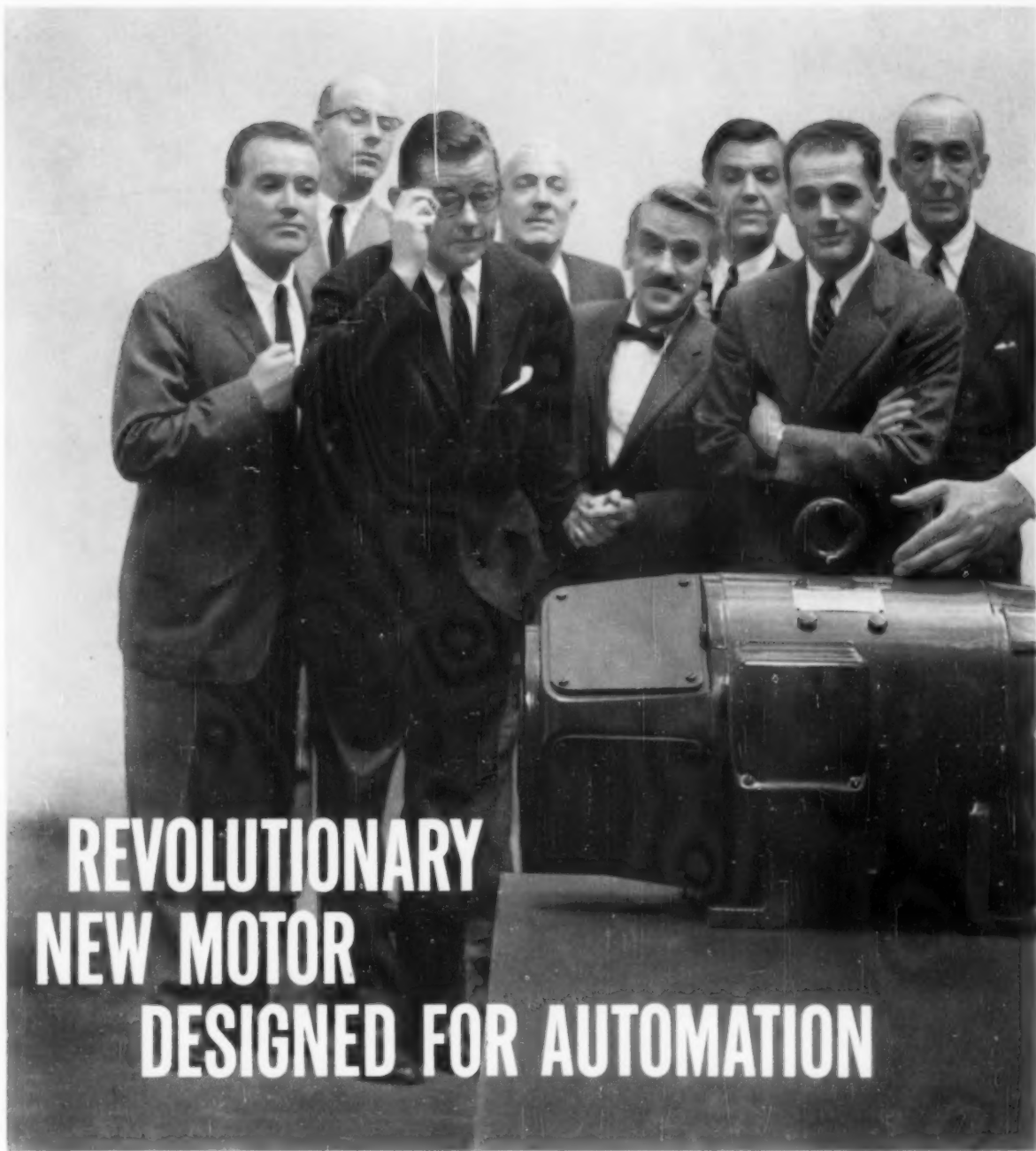
- Berkeley scientists have made big strides in studying the long-unexplained phenomenon of photosynthesis—the mechanism by which plants capture sunlight and store it in energy-bearing foods.

- **Better Tools**—Behind all these achievements has been the spectacular,

but often overlooked effort of the University of California's blue-ribbon panel of scientists to develop and constantly improve the instruments to make such research possible. HILAC is their latest device for extending the frontiers of research.

Its first ancestor, the original 37-in. University of California cyclotron, had a tremendous scientific impact in the drive to harness the energy of the atom. Its importance is attested by the fact that Dr. Lawrence and two of his colleagues, Dr. Edwin M. McMillan and Dr. Glenn T. Seaborg, received the Nobel Prize for their work in developing a later 60-in. model and for its use in the discovery of elements 93 to 98—including plutonium.

Both these models grew from Lawrence's original idea that invisibly small



REVOLUTIONARY NEW MOTOR DESIGNED FOR AUTOMATION

Westinghouse *Life-Line* **H** with silicone insulation

Silicone for 10 times longer insulation life . . . Brand-new concept in motor ventilation that means the cleanest most trouble-free operation . . . Highest level of response in any modern d-c motor . . . Greater motor protection than ever before. The Westinghouse Life-Line® "H" is truly the modern motor for modern automatic systems.

For all the facts about the Life-Line "H", call your local Westinghouse representative. Or, write Westinghouse Electric Corporation, 3 Gateway Center, P. O. Box 868, Pittsburgh 30, Pennsylvania.

J-21989-A

YOU CAN BE SURE...IF IT'S Westinghouse





How the glass in windows reflects the quality of your building

Even the most attractively designed building is bound to have a shoddy exterior appearance if there are distorted reflections wiggling in every window. And the view from inside is not clear and sharp. That's why architects recommend glazing good buildings with Libbey-Owens-Ford *Parallel-O-Plate*® Glass, the most distortion-free plate glass made in America. It doesn't cost a great deal more than ordinary window (or sheet) glass, and it makes your building look like a million dollars. Just ask your architect.

PARALLEL-O-PLATE

Twin-ground for the finest optics

LIBBEY • OWENS • FORD GLASS COMPANY, TOLEDO 3, OHIO

HERE'S THE DIFFERENCE: The glass in these two windows is backed with black composition board to simulate the mirror effect of windows in a building. In the window at the left, glazed with *Parallel-O-Plate*, the reflections are mirror-perfect. In the other, glazed with window (or sheet) glass, note the distorted reflection.



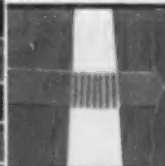
BELOW: How the photograph at the left was made at the office building of the EC & M Division of The Square D Co., Cleveland, glazed with plate glass.



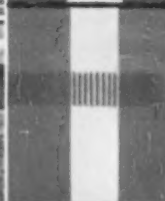
what causes distortion?



WINDOW GLASS: Its surfaces are fire-polished . . . not ground for uniformity of thickness as is plate glass. As a result, the surfaces are wavy and there is distortion of vision and of the reflections in the glass.



ORDINARY PLATE GLASS: It is ground and polished one surface at a time. While its thickness is more uniform than that of window glass, the thickness does vary and some distortion results.



PARALLEL-O-PLATE: Its surfaces are twin-ground—both sides ground at the same time—then polished. This produces more perfect parallelism than any other method of making plate glass. This uniform thickness results in greatest freedom from distortion.



all the comforts of FOAM!



All the comforts of foam . . . and then some! Urethane foams, made from National Nacconates*, are full of profitable new ideas for designers and decorators, architects and engineers!

They'll cushion for comfort . . . but their resilience can be controlled to absorb shock as well. They insulate against heat, cold and sound, provide lightweight structural rigidity. They can be soft as down, yet have tensile strength, abrasion resistance and heat stability, and can be washed or dry-cleaned.

Urethane foams can be made in slabs or slices, foamed in place or pre-molded. They're tough enough to be cut and sewn, quilted, tacked or hog-ring-tied, heat-sealed or glued.

For additional information, contact National Aniline today.

URETHANE FOAMS

based on

NATIONAL NACCONATES

*Trademark name for National Aniline's Diisocyanates

NATIONAL ANILINE DIVISION
ALLIED CHEMICAL & DYE CORPORATION



40 RECTOR ST., NEW YORK 6, N.Y.

Akron Atlanta Boston Charlotte Chattanooga Chicago Columbus, Ga. Greensboro Los Angeles New Orleans Philadelphia Portland, Ore. Providence Richmond San Francisco Toronto

fragments of matter—protons, alpha particles, deuterons, and so on—could be boosted to high energy and used as projectiles to bombard atoms, hitting these atoms with such terrific force as to knock component pieces out of them. Today this idea has been expanded even further into a conglomerate of research tools that almost staggers the imagination.

• **Family of Monsters**—One member of this family of monsters, the 184-in. synchro-cyclotron—great-grandchild of the original Lawrence particle accelerator—is now being revamped to study atomic particles of the middle-energy range. The essential parts of the original cyclotron still remain in this mammoth version—these are an electromagnet, a vacuum chamber between its poles, and two accelerating electrodes. But the synchro-cyclotron's magnet measures over 15 ft. across and weighs 4,000 tons.

First component of any atom-smasher, whatever its size, is an ion source. This provides—in varying ways—the ammunition of the atom-smasher—the particles that are to be accelerated and hurled at the target atoms. In the synchro-cyclotron, the particles that are accelerated may be protons, deuterons, or alpha particles, depending on whether hydrogen, heavy hydrogen, or helium is used as the ion source.

A preliminary clash of electrons with atoms of the gas used as source forms positively charged particles that float up into the space between the synchro-cyclotron's two accelerating electrodes. The particles then start racing madly around their circular orbit, pushed along to an ever faster speed, at every half turn around the circle, by one of the accelerating electrodes. The 184-in. synchro-cyclotron can accelerate a deuteron up to 200-million electron volts, and force it to make 10,000 revolutions in 1/1,000 of a second at a speed of 80,000 mph.

• **Biggest**—Yet even this giant is dwarfed by the University of California's \$9.5-million, 10,000-ton Bevatron—built to find that elusive particle of matter, the antiproton. Housed in a circular building that rests in a depression of Charter Hill, the Bevatron (picture, page 95) is the free world's biggest nuclear research instrument.

Unlike a cyclotron, the Bevatron cannot accelerate particles from a standing start, or even from a low-energy start. So the particles fed into it have to be speeded up in stages by two satellite atom-smashers to an energy high enough for the big machine to handle. In the Berkeley Bevatron, the necessary energy level is 10-million electron volts.

But once the Bevatron takes over, its giant magnet performs an almost unbelievable feat (in the Bevatron, the racing particles are driven around their



THE MAN WHO SAID *"No!"*

H E'S a business man looking for a place to build a new plant . . . a plant that will bring prosperity to the community he chooses. Water supply is one of the most vital questions, and many a golden opportunity has been lost by a community because its water system is inadequate.

In Plattsburgh, N. Y., the story was different. Wasteful habits were causing water shortages. So Plattsburgh decided to install water meters. As a result, they "found" 1,400,000 more gallons per day . . . enough to supply a new Strategic Air Command Base now located there.

Even communities who have had meters for many years . . . but have allowed them to run down . . . can "find" more water simply by repairing their meters.

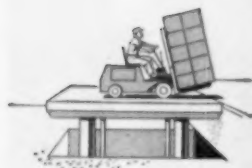
These savings are real. Accurate meters give a strong money incentive for conservation. For further details, write to

NEPTUNE METER COMPANY, 19 West 50th St., New York 20, N. Y.

neptune
for a better measure of profit

DIVISIONS and PRODUCTS

Neptune Meter Co., Neptune Meters, Ltd.	liquid meters
Revere Corporation of America	aircraft instruments & wire
Superior Meter Co.	gas meters
Cox & Stevens	electronic scales
Electronic Signal Co., Inc.	toll collection equipment



1,000
TO 100,000 LB.
CAPACITIES



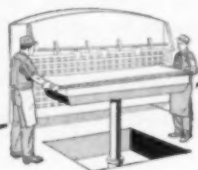
Rotary Levelator. Lifts handle heavy loads faster and cheaper

Adaptable to many uses—Economical Rotary Levelator Lifts permit loading and unloading trucks and freight cars direct from plant floor level. Expensive loading docks and ramps are eliminated . . . buildings may be erected on grade at big savings in construction costs. Levelator Lifts also solve the problem of moving materials from one floor level to another and can be used in other ways to speed plant traffic and cut labor costs. When lowered, the lift is level

with the plant floor and can be trucked over. Installation is easy, and there's no maintenance problem.

Economical to operate—Rotary Levelator Lifts operate on dependable, low-cost Oildraulic (oil hydraulic) power, using compressed air or electric power unit. A standard model will handle 12,000-lb. loads. Others are built to requirements for lifts of 1,000 to 100,000 lbs. Mail coupon for literature or write our Industrial Division, describing your lifting problem.

Machine Feeding—Levelator Lifts handle loads faster and cheaper than men or makeshift methods and keep materials at the right height for continuous feeding.



MAIL NOW FOR
COMPLETE DATA

Rotary Lift Co.
1051 Kentucky, Memphis 2, Tenn.
Please send literature on Rotary Levelator Lifts.

Name _____ Company _____

Address _____

City _____ State _____



LEVELATOR® LIFTS

circular orbit to higher and higher speeds by an increasing magnetic field). Protons are whirled around their circular path at the incredible rate of some 4-million times every 1.85 seconds (that means 300,000 miles, or 12 times around the earth, in less than two seconds).

They come out of this dizzying whirl with an energy of 6.25-billion electron volts—enough to knock neutrons and protons out of other atoms and generate a shower of mesons and other secondary cosmic ray particles.

• **HILAC's Advantages**—The Bevatron's forte is this superpower. Berkeley's latest atom-smasher, HILAC, can't compete with it in terms of energy. HILAC, for example, can get nuclei of nitrogen atoms (nitrogen 14) only up to the relatively puny energy of 140-million electron volts.

The particles shot through HILAC's 90-ft.-long "gun barrel" get their speed-up by a method that differs from both cyclotron and Bevatron. Inside the "gun," a high frequency electrical field is created by radio transmitters broadcasting into it. The particles are accelerated between drift tubes in the center of the "barrel"—they are kicked to higher speeds every time they cross a gap between drift tubes.

Despite HILAC's lower power, its straight-line drive gives it certain definite advantages over its circular cousins. In these, the bullet particles have to be swung out of their circular orbit before they can be shot at the target atoms. In this process, some of the particles may go astray.

In a linear accelerator, the stream of protons shoots straight out of the "gun barrel" at the target, in a much sharper beam than the researchers can get from a cyclotron. There's practically no variation in energy of the particles coming out. And there's a minimum of stray radiation to worry about in making accurate radiation counts.

• **New Elements**—These factors are particularly vital when it comes to synthesizing in the laboratory previously unknown elements. In the past, in synthesizing all elements heavier than uranium, experimenters have had to work their way up the periodic table of elements one step at a time. To get plutonium (element 94) they shot deuterons from Berkeley's 60-in. cyclotron into uranium (element 92). To get mendelevium (101), alpha particles were fired into einsteinium (99).

But beyond element 101, scientists see this process as rather hopeless. The chief reasons: As nuclei become heavier they become less stable, and their half-lives become shorter (very loosely, the half-life is the effective life of a radioactive body, the time required to lose half its radioactivity). Fewer atoms can be synthesized, and

Here's everything you need to

GET YOUR NEW PLANT NOW!

READY TO OCCUPY — OR MADE TO ORDER



**MONEY
WAITING**

**LOW INTEREST
RATES**
(as low as 3½%)

**UP TO 100%
FINANCING**

...in a friendly community combining “room to grow” with quick access to key markets, plenty of water and other resources, and suppliers.

Is the high cost of financing delaying your expansion program? It needn't.

Low-cost financing plans offered now by communities in the 29,000 sq. mile, 5-state area served by West Penn Electric are the answer to your problem. They enable you to occupy one of the easily adapt-

able plants now available or move into a new plant made to order. In either case, you will be dollars ahead in operating costs.

For details on available sites, plants and financing, phone our Area Development Department — WHitehall 4-3740 — or send in the coupon below.

West Penn Electric System

Monongahela Power Company
The Potomac Edison Company
West Penn Power Company



WEST PENN ELECTRIC SYSTEM, ROOM 906
50 BROAD STREET, NEW YORK 4, N. Y. E

Without obligation, please send me information about available buildings and sites, and the assistance offered by you and the communities in your service area.

Name and Title.....

Firm.....

Address.....

City..... Zone..... State.....

One of the most famous
packages in the world...
the original black and gold
Lanvin bottle.



Quality makes a subtle point

The look of its letterhead is a clue to a company's character. Reflecting the Lanvin precept that quality—like fragrance—is to be *discovered*, not announced, the classic Lanvin letterhead is as subtle as its own fine perfume.

Strathmore papers never shout their superiority, rather their quality and dignity add an intangible sincerity to a letterhead. It is no accident that an impressive number of important firms use Strathmore. It would be no mistake if yours did the same.

Lanvin-Parfums, Inc. has been promising quality and giving it for more than a quarter of a century...ever since the famed French couturiere, Mme. Jeanne Lanvin, created a series of fragrances for her own use and that of her customers. Her original *My Sin*, *Arpege*, *Scandal*, *Rumeur* and *Pretexte* are beloved by women in every part of the world as superb examples of "the best perfume Paris has to offer."

STRATHMORE LETTERHEAD PAPERS: STRATHMORE PARCHMENT, STRATHMORE SCRIPT, THISTLEMARK BOND, ALEXANDRA BRILLIANT, BAY PATH BOND, STRATHMORE WRITING, STRATHMORE BOND, ENVELOPES TO MATCH CONVERTED BY OLD COLONY ENVELOPE CO.

STRATHMORE THIN PAPERS: STRATHMORE PARCHMENT ONION SKIN, STRATHMORE BOND ONION SKIN, STRATHMORE BOND AIR MAIL, STRATHMORE BOND TRANSMASTER, REPLICA.

Better Papers are made with Cotton Fiber

STRATHMORE

Makers of Fine Papers

STRATHMORE PAPER COMPANY, WEST SPRINGFIELD, MASSACHUSETTS

it's much harder to detect them.

Of element 101, the most recently discovered, only 17 atoms have ever been identified. In the case of element 102, for which researchers are now looking, even fewer atoms are likely, and 102's half-life is sure to be measured in seconds, or even less.

Where HILAC comes into the picture is in its ability to accelerate the nuclei of atoms all the way up to element 18, argon—that is, to shoot larger fragments of matter at the target nuclei. Berkeley scientists hope this will permit adding these larger fragments to the target nuclei to form hitherto unknown elements—thus taking several steps at once up the periodic table.

- **Isotopes**—HILAC's ability to shoot heavy nuclei will also open up fresh possibilities for study of elements with atomic numbers from 84 to 90—including radium and thorium. It's now difficult to obtain in pure form some isotopes of these elements, but by bombarding such elements as lead and bismuth with heavy nuclei, researchers should be able to get almost any synthetic isotope they want.

- **Measuring Results**—Besides developing new atom-smashers, personnel of the University of California's Radiation Lab have been instrumental in devising instruments to measure and detect the results of their nuclear experiments.

Most such devices—whether Geiger or proportional counters, ionization chambers, or cloud and bubble chambers—depend on the principle of ionization. The cloud or bubble chamber as developed at Berkeley, however, provides a means of actually photographing tracks made by fast-flying atomic particles. Photographs of the vapor trails of particles indicate, for example, just what happens when any given particle bumps into an atom.

- **Long-Term Gains**—What mankind may eventually gain because of such fundamental research developments is almost impossible to foresee. Some developments bring immediately visible results. The Berkeley lab's discovery of carbon 14 and its subsequent use as a radioactive tracer made possible research on photosynthesis in plants; this has been called one of the most promising peacetime applications of atomic energy. But the importance of the discovery of something like the antineutron—the final fundamental nucleon needed to satisfy present scientific theories—is infinitely harder to evaluate.

The chief value of the Berkeley lab's research, director Lawrence admits, lies in expanding man's understanding of the nature of matter. But past experience has shown that it's upon fundamental discoveries of this sort that all material progress ultimately depends. **END**

ORE BLENDING

This Hewitt-Robins ore blending and reclaiming system for the Colorado Fuel and Iron Corp. has a double-wing automatic reversible stacker that handles ore at the rate of 350 tons per hour. After installation, production of iron increased 38% with a 9% reduction in coke consumption.

A belt conveyor system is more than just a belt . . . it's a *machine*. Only one company designs, engineers, manufactures, installs, and services *all the major components* of a complete belt conveyor system for handling materials in bulk . . . Hewitt-Robins, Stamford, Conn.



H-R ENGINEERING

H-R MACHINERY

H-R CONVEYOR BELT



HEWITT-ROBINS

THE NAME THAT MEANS EVERYTHING IN BULK MATERIALS HANDLING SYSTEMS...
DESIGN, MANUFACTURE, INSTALLATION, AND SERVICE OF ALL COMPONENTS

Highway Plan Crawls In Its First Year

Federal aid highway project wasn't expected to start with a leap—and it hasn't. Program administrator Bertram Tallamy (right) is doing his utmost to get the job done on schedule, but it will be a few years before the results begin to show up to any large extent in concrete.

IT TOOK TWO YEARS of planning and counter-planning to get the \$52-billion federal highway program through Congress, and when Pres. Eisenhower signed it into law last June 29, the engineers and the administrators said: "This is only the beginning." Today, after almost a full year's operation under the program, the engineers and the administrators have one chief thing to say: "This is only the beginning."

I. How Program Stands Now

All but a small fraction of the \$52-billion must still be collected and spent, the largest part of it on 41,000 miles of interstate highways that will link every major city in the nation. Eleven months

of right-of-way buying and engineers' planning have produced final construction contracts for a total of 1,043 miles of new interstate highways. A complex and controversial set of rules for further operation of the program remains to be written.

Manpower, particularly engineering talent, is short among the highway planners, and, in some states, funds to match federal aid also are scarce.

• **Few Roads So Far**—Plainly, in the first year of its operation, the highway program will produce very few new roads. It wasn't expected to; the assumption was that it would take two or three years to mature and begin running steadily and productively.

Since the highway program, in its



BILLIONS AT WORK: Federal highway aid funds make up 90% of money being spent to push U.S. Highway 99 through forests in California's Sacramento River valley.

demands for manpower, money, and materials, is the largest public works project the U.S. has ever undertaken, it would have been unrealistic to expect it to start with a huge leap. Congress deliberately wrote few precise rules for its operation, leaving them to be worked out from experience.

• **Highway Boss**—The man who has to gain that experience, who must provide Congress with the information it needs to write the rules, is Highway Administrator Bertram D. Tallamy (cover).

Congress recognized, when it prepared the program last year, that the man who ran it would have to watch over it full-time, that the job couldn't be added to the regular schedule of the Commissioner of Public Roads. Six months after the bill was signed Tallamy, 55-year-old engineer and administrator, quit his five-year post as chairman of the New York State Thruway Authority and came to Washington to do the job.

• **Stretchout**—Already, he has learned enough about the program's operation to give Congress one major piece of information: The project will take 15 or 16 years to complete, not the 13 years Congress originally hoped.

The reason, Tallamy told Congress, is that there won't be enough federal



funds available each year to keep the roadbuilding going at the pace originally scheduled.

The federal money is drawn each year from the highway trust fund, established within the Treasury's accounting system, and that fund is fed from the new scale of taxes imposed on gasoline, tires, retread rubber, and so on. It goes to pay 90% of the interstate highway system's cost, and 50% of the cost of new primary, secondary, and urban roads outside that 41,000-mile system.

- **Overestimation**—Congress has ruled that federal highway aid to states in any year cannot exceed the amount paid into the trust fund that year. It's Tallamy's—and the Treasury's—estimate that between 1960 and 1970, only about \$1.6-billion will be available in the fund each year, instead of the \$2.2-billion first estimated.

Construction of primary, secondary, and urban roads won't be affected by the slowdown. These roads get first crack at the highway trust fund, and states match federal grants for them dollar for dollar. Federal aid for this system will be stepped up from \$825-million this year to \$900-million in 1960 and will run at this level throughout the program, adding up to a total of

over \$11-billion in federal aid for the states.

That the whole operation probably will not run quite so fast as hoped seems to be one of Tallamy's minor worries. At least the fund is established, and at the moment it's building up according to expectations. From last June until mid-April, \$1,039-million was doled out to the states for work on the interstate highway system. That much covered right-of-way buying, engineering, and some construction on 1,345 miles of highway, most of it in rural and suburban areas. Of this, the construction outlay totaled \$458-million.

- **Spending Pattern**—From this work that has already started, the highway planners are getting a clearer view of how they'll be spending money in the next 15 or 16 years. Buying right-of-way, carrying out the engineering work, and completing construction on the new roads is costing about \$1-million a mile. Construction's share of that is running at about \$553,000 a mile. Original estimates for construction cost were for an average of between \$700,000 and \$750,000 a mile; for the whole job, including right-of-way buying and engineering, about \$1,250,000 a mile.

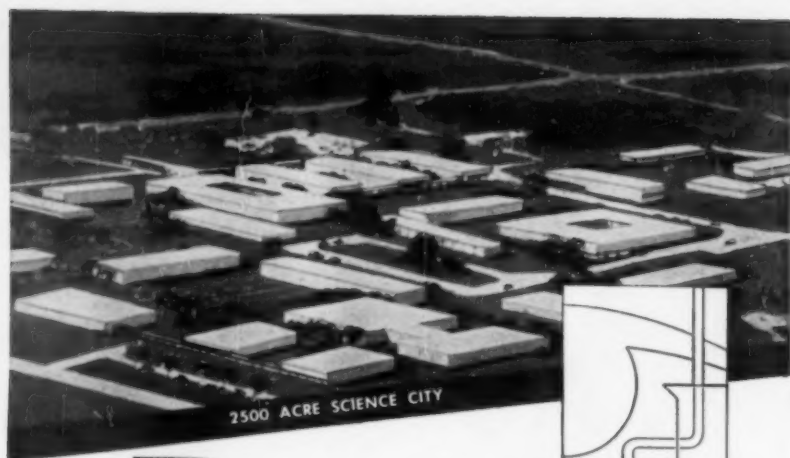
But most of the roadbuilding under

way now is outside the cities; it's always cheaper to push a highway through farmland than through thickly populated industrial areas. As work picks up in urban areas, costs will soar. In the 15 biggest cities they may run from \$7-million up to \$8-million or \$10-million a mile.

II. Early Problems

Not for four or five years will much of this high-cost urban roadbuilding work be put under contract. Before then, the highway planners must find their way through a maze of problems.

- **Controversial Questions**—Among the chief of these during the next two years will be settling a group of hotly controversial questions that spring directly from the program: Should billboards be permitted along the interstate highway system? Should utility companies have to foot the bill for relocating their power lines along highways that are to be rebuilt? Should states be reimbursed if highways they have built are incorporated into the interstate system, or should the money they would otherwise get be spent elsewhere to extend the highway network? Probably one of the most explosive questions of all will be: How should the



2500 ACRE SCIENCE CITY

RESEARCH and DEVELOPMENT

*in
San Antonio*

An opportunity for you to separate your research from the distraction of present-day production problems. San Antonio offers an ideal location for the research which will create your future.



AVIATION RESEARCH LABORATORY

POOL OF EXPERIENCED SCIENTISTS

SPORTS AND CULTURAL ACTIVITIES

SCIENCE CITY is a 2500 acre site which has been scientifically planned as an ideal location for plants engaged in research and development and technical manufacturing. Already included in Science City are Southwest Research Institute, Southwest Foundation for Research and Education, the Army Ordnance Corps' new lubricants research laboratory and a new radiation laboratory to be used in aviation research.

Laboratories are available under very flexible plans requiring no capital investment.

The location of Southwest Research Institute, Brooke Army Medical Center, and the new Army Ordnance Corps' lubricants research facility in San Antonio has created a pool of experienced scientists, engineers and technicians from which may be drawn a nucleus for staffing new technical manufacturing plants.

In addition, thousands of workers skilled in the production and maintenance of electronic equipment, aircraft and aircraft parts, metal fabrication, heavy machinery, textiles and others are abundantly available.

San Antonio's CLIMATE PLUS its cultural and scenic attractions make recruiting of research personnel less difficult than in other locations. Here scientists and their families can enjoy living in a leisurely old world atmosphere.

They can hunt and fish on fresh water lakes, less than one hour's drive from the city. The delightful Hill Country is just minutes away and the charm of Old Mexico and the thrill of deep sea fishing or swimming are within three hours' drive.

SAN ANTONIO *City in the Sun*

Write

Greater San Antonio Development Committee,
700 Insurance Bldg., San Antonio, Texas,
for complete information

All inquiries treated in confidence.

"... the 48 state highway departments are short between 5,000 and 6,000 engineers ..."

HIGHWAYS starts on p. 106

cost of the new highways be split between motorists and truckers?

Congress will decide each of these questions within the next couple of years. But the Bureau of Public Roads must write extensive reports on all of them for Congress' guidance.

• **Shortage of Engineers**—Bigger than all these rules of procedure are the problems connected with the planning and the shifting of dirt for the thousands of miles of new highways. And here, the primary shortage is in engineering talent.

Altogether, the 48 state highway departments are short of between 5,000 and 6,000 engineers. Texas alone says it needs 300 engineers, Missouri, 100. In the last few years Texas' highway planners have been able to recruit only 12 or 14 college engineering graduates a year. Generally, the less populous states are worse off, but all are having a hard time.

With aid from Tallamy's office, the states are constantly seeking new ways to get more out of the engineers they have.

In almost every state, draftsmen are being hired to take over much of the tedious, time-consuming blueprint work that engineers formerly had to handle.

• **Electronic Help**—More important, the whole engineering operation inside more and more state highway departments is being reorganized around electronic computers. More than 20 states have already installed these computers, half a dozen others soon will install them.

The computers promise no instant relief from the engineer shortage; their benefits will not show up for about three years. But then, it's expected, they will save more than 50% of each highway engineer's time.

The delay arises because engineers and mathematicians must work out new programs for the computers for each different highway-building job—bridge design, earthmoving estimates, interchange analysis, and so on. Once the program is developed, the payoff in time saving comes rapidly.

Highway departments in many states are busy now working out programs for the computers. From Washington, the Public Roads Bureau keeps close check on their work, and prepares computer programs of its own. Its purpose is to help all the nation's highway planners avoid duplication of effort, and, with this aim, it has set up a library of



Yorkaire Self-Contained Air Conditioners make almost every modernizing program easy—with minimum loss of time

and money for alterations. Units may be installed singly or in multiple to cool any size or type of restaurant.

Are you getting your share?



Yorkice Icelet Maker turns out 200 lbs. of crescent-shaped Icelets daily. Other models make up to 8,000 lbs. of cubes, fragments, crushed ice.

IN STORES, hotels and office buildings everywhere, the difference between average business and really good business often depends on the comfort and service provided by proper air conditioning and refrigeration. Outstanding performance in these two areas will build traffic. People will come to you more often, stay longer, spend more. Your income and your share of the market will be substantially increased.

Your best assurance of this kind of performance is the name "YORK" on the equipment you install. You'll be surprised at how little it costs to enjoy York quality in air conditioning, ice makers and condensing units. You'll be gratified at the trouble-free installation of factory-trained craftsmen. You'll be pleased for years to come with the low, low operating and maintenance costs of this outstanding equipment. Why not contact *your* York Dealer, today!



York Condensing Units provide dependable refrigeration for walk-in coolers. Air, air-water and water-cooled units in 1/3 to 7 1/2 h.p.



York "Snorkel" Air Conditioners conform to hotel and office building restrictions because not one inch juts out the window.



York Air Conditioning furnishes cool, traffic-building comfort to every type store—from the corner grocery to the largest supermarket.

the quality name in air conditioning and refrigeration

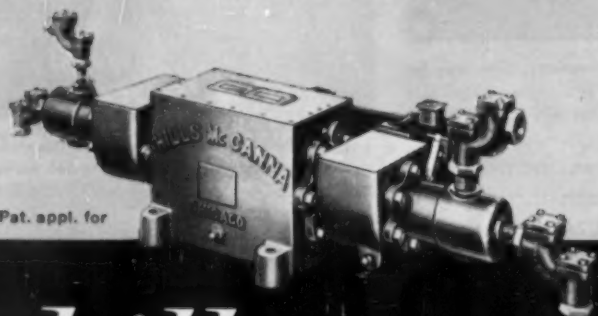


YORK CORPORATION, York, Pa., Subsidiary of Borg-Warner Corporation

Accurate Proportioning of Fluids

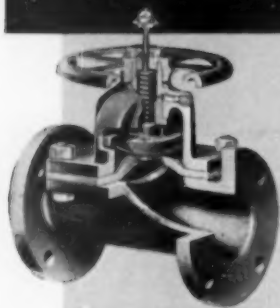
Hills-McCanna Metering and Proportioning Pumps

Hills-McCanna Proportioning Pumps are designed for dependable precision metering and simplified maintenance. Ranging in capacity from a few cc to hundreds of gallons per hour, they may be adapted to automatic operation. Write for the valuable booklet "Precision Proportioning Pumps" for complete information.



*Hills-
McCanna
company*

THE PEOPLE WHO KNOW AND CONTROL FLOW



DIAPHRAGM VALVES

...provide leak-tight, dependable valve performance for corrosive services, slurries, liquids, gases, air and water; feature simplified in-line maintenance, exclusive sealing bead diaphragm. Write for informative catalog on complete valve line.

Hills-McCanna Company 2381 W. Nelson Ave., Chicago 18, Illinois



EXTENDING San Francisco's Embarcadero Freeway is job for new program.

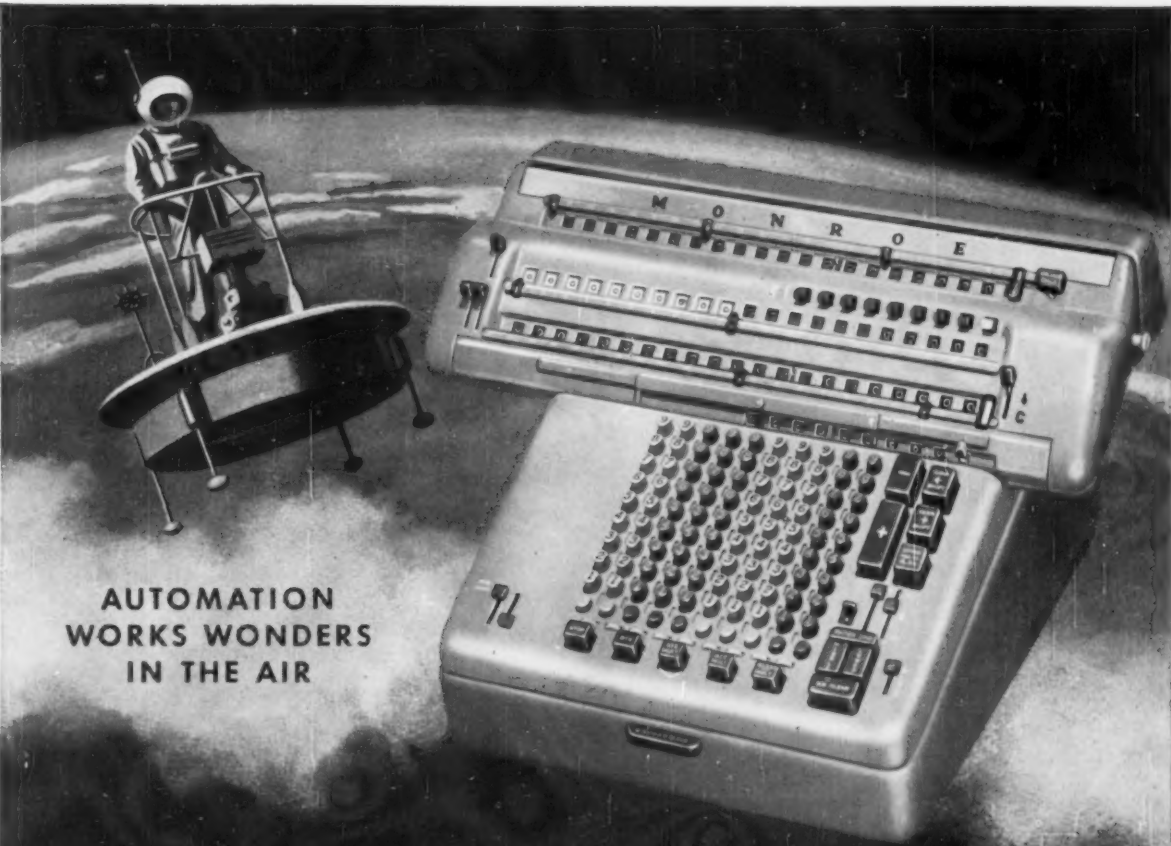
computer programs. Already, 38 programs are filed away in that library, ready to be lent to state highway departments. Another 10 programs will be added to the shelves soon, and more will follow through the next few years.

• **Aid From Consultants**—To supplement all this, just about every state is calling to some extent on work by engineering consultants. A year ago, some highway planners thought that stiff consultants' fees would push up the final cost of the highway program. Now, they're not so sure. They believe it's better for state highway engineers to call on consultants rather than to enlarge the state's own engineering staffs for short-term—three- or four-year—periods of rush planning. To drop the extra staff after the three- or four-year rush would spread disorganization through the highway departments.

For all this, a strong clash of interest remains between the state highway departments and the outside engineering consultants. The conflict is an old one; it became severe only after the highway bill passed Congress and demand for highway engineers increased sharply.

• **Conflict of Interest**—It grows out of the states' low pay scales for engineers. A recent survey shows that the average state-employed highway engineer with 15 years experience draws \$6,270 a year; one practicing privately is likely to make about \$10,600; an engineer working in industry gets about \$8,820. With the added demand for highway engineers, consultants began tapping state engineering staffs—and stepped up their pressure as state highway departments began passing engineering contracts to more and more consultants.

By the end of last year, states were losing their engineering staffs so rapidly



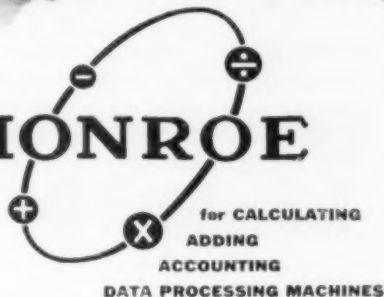
**AUTOMATION
WORKS WONDERS
IN THE AIR**

**MONROE Automation works wonders
on the desks of...**

These companies, leaders in their fields, maintain their top positions by utilizing the most advanced methods and equipment available. *Today* in their offices Monroe Automation is setting new speed standards for figurework. The amazing new Monro-Matic® Duplex desk calculator actually adds as it multiplies, adds as it divides, and by storing individual answers, eliminates the costly addition or subtraction of results when the final answer is needed. It has streamlined figurework for hundreds of businesses... large and small... *why not yours?* See the yellow pages of your phone book for the Monroe office nearest you. Monroe Calculating Machine Company, Inc., General Offices: Orange, New Jersey. Offices for sales and service throughout the world.

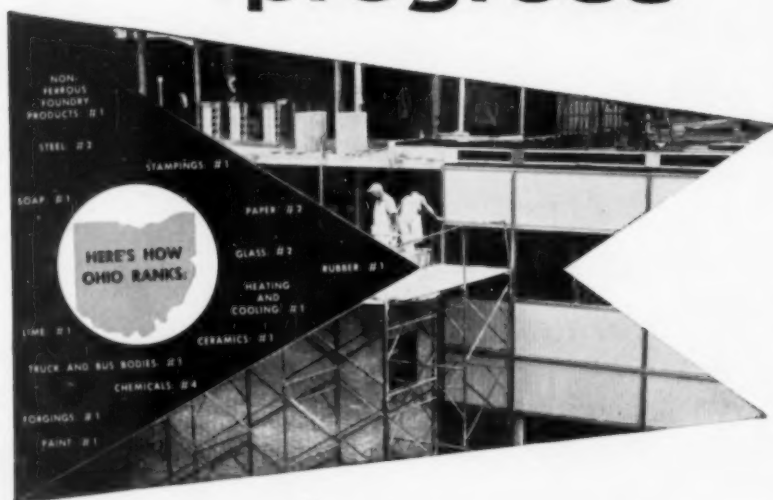


See the MAN from MONROE



OHIO

...the heart of industrial progress



Ohio is the heart of American industrial progress because it offers all that industry needs — men, materials and markets centered in one place.

That's why Ohio now ranks second in the nation in value added by manufacture.

You and your company will prosper in Ohio, where all factors favor productive, happy living.

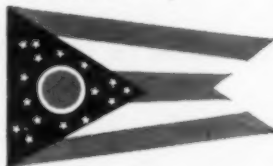
OHIO DEVELOPMENT AND PUBLICITY COMMISSION

21 West Broad Street, Columbus 15, Ohio

Please send your new colorful "ENJOY OHIO" and other Ohio brochures.

NAME _____
 COMPANY AND TITLE _____
 STREET _____
 CITY _____ ZONE _____ STATE _____

Dept. BW-5



that the Public Roads Bureau urged them to insert a "no-raiding" clause in contracts they signed with consultants. The cause stipulates that once a consultant wins a highway engineering contract he cannot, without written permission, hire state-employed highway engineers to work on the contract.

Consultants are irate about this clause. They say it amounts to job freezing, and they're demanding that it be dropped. But all states are using the clause and there's no sign they intend to drop it. So now the National Society of Professional Engineers says it will take the issue to Congress if it can't get a favorable settlement elsewhere.

III. Uneven Progress

All these techniques are helping most states keep their highway planning on schedule. But construction of the new roads is not moving so evenly. Seven states—Delaware, Kentucky, Nebraska, Nevada, Tennessee, Vermont, and West Virginia—have let no contracts for construction on interstate highways. Texas has contractors working on 204 miles of new highway. In between, New Mexico and North Carolina have each let contracts for work on more than 70 miles, and 10 other states each have between 30 and 52 miles under construction.

• **Local Conditions Vary**—There are reasons for the variance. Texas, of course, has more miles of interstate highway to build within its borders than any other state. It's moving fastest because it has the biggest construction job to do. Other states that are out ahead had plans ready for use as soon as the program began; some of the lagging states had to start from scratch. A few states have also had to change their tax laws to raise money to match federal grants.

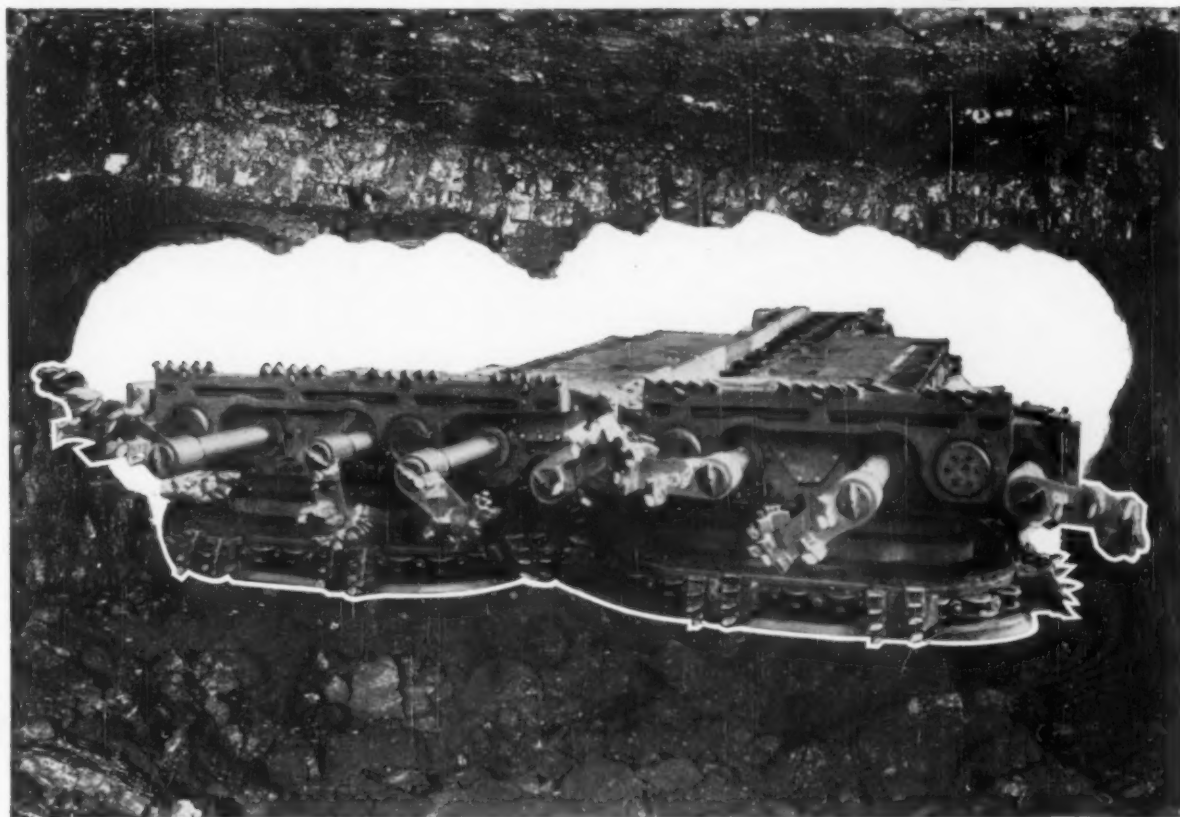
But within a year, Tallamy expects that there'll be a balanced rate of construction among the states, and that all will be on schedule. Pressing them to stay on schedule is one of the major parts of his job.

IV. Tallamy's Role

In this role, he sees himself as part missionary, part publicity agent. In Washington, his missionary work involves him in days full of meetings with state highway planners. Four or five times a month he does field missionary work. Last week, for example, he flew to Texas, New York, and Delaware for spot checks of progress.

• **Prodding Laggards**—"When we believe planning is lagging in any state, we start with gentle persuasion. Our district and regional offices in each state keep asking the local highway

For the finest in Continuous Mining



New as next week!

25-INCH LOW COLMOL®

Jeffrey leads again with the
**86-A Colmol... the first low seam
continuous mining machine**

- Now you can have all of the advantages of continuous mining in low seams, previously available only in medium and high seams... with Jeffrey's new 86A Colmol. It works in seams as low as 28 inches, making a cut 14'7" wide.

New gathering chain design gives good cleanup and smooth bottoming; cuts right down to the

floor and leaves no valleys. This positive gathering device sweeps the coal into and up the center of the Colmol, onto the discharge conveyor.

The swinging discharge conveyor is an integral part of the main conveyor. All equipment is placed for easy servicing, greatly simplifying and reducing downtime.

Don't miss this first chance to see all of the unique design features of this new Jeffrey continuous mining machine... the 25-inch 86A Colmol. Find out how it will reduce costs and speed your low-seam mining operations.

See it first
at the... **COAL SHOW**
May 13-16... **CLEVELAND**



JEFFREY

THE JEFFREY MANUFACTURING COMPANY • COLUMBUS 16, OHIO



5-Ton Packaged Air Conditioner

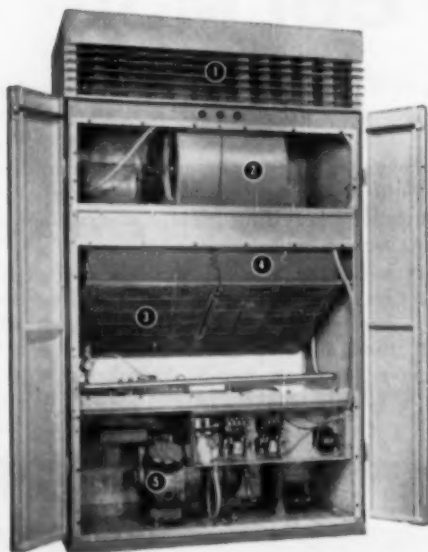
7 1/2-Ton Packaged Air Conditioner



15-Ton Packaged Air Conditioner

Here's a practical way to air-

OUTSTANDING PERFORMANCE! QUIET OPERATION! LOW OPERATING COST!



1. Plenum. Minimum height to fit into limited spaces. Outlet grille has horizontal and vertical louvers to control air distribution. No special tools needed for adjustment. Designed for optimum velocity at low fan speeds.

2. Fan. Centerplate construction eliminates turbulence; wheel and housing integrally designed; large outlet area, low-speed operation. Fan size specially selected for each size unit, for peak performance with plenum or duct work.

3. Filter. Permanent-type. Large face area gives maximum cleaning; permits low fan speeds. Low air resistance means more air per horsepower, smaller electric bills. Condensate washes dust, dirt from filter, provides less variation in air flow.

4. Cooling Coils. Copper coils with spiral aluminum fins, sloped and staggered to give greatest air-coil contact. Because air is drawn through coils, not blown through, every square foot of coil is utilized for more cooling capacity.

5. Compressor. Motor and compressor hermetically sealed in rigid casing; spring-mounted to absorb vibration. Require no oiling, adjusting, seasonal pumpdown. Triple-valve design for quietness. Warranted for five years.



20-Ton Packaged Air Conditioner



10-Ton Packaged Air Conditioner

3-Ton Packaged Air Conditioner

condition your entire building!

American Blower Packaged Air Conditioners are easily installed, come in 3- to 20-ton sizes for use with plenum or duct work!

American Blower Comfort-Engineered Packaged Air Conditioners give you *more* cooling with their large-capacity cooling coils — sloped, spiraled and staggered for the greatest air-coil contact possible!

Air passes first through the large, heavy-duty filter where dirt, dust and impurities are removed. Then heat and moisture are extracted as the air is drawn over every square foot of the coil.

Finally, the American Blower Fan, with exclusive centerplate construction, sends conditioned air through

plenum or duct work to every corner of a building. Centerplate construction eliminates turbulence — means even circulation, greater efficiency, smoother, quieter operation.

There are American Blower Comfort-Engineered Packaged Air Conditioners, in sizes from 3 to 20 tons, for use with city water or cooling tower. Multiple units will handle entire office buildings or plants. And you can install packaged units, without costly building alterations or work interruptions, at minimum cost per square foot of conditioned area.

American Blower has been a leader in the air-handling and air-conditioning field for over 75 years. Ask your contractor or consulting engineer to get full information on the American Blower Packaged Air Conditioners that answer your exact air-conditioning requirements. American Blower Division of American-Standard, Detroit 32, Mich.

Full Five-Year Warranty

In every American Blower Packaged Air Conditioner, the complete refrigeration circuit, including the hermetically sealed compressor, is warranted for a full five years. In addition, the compressor is permanently lubricated — never needs oiling or seasonal pumpdowns.



AMERICAN BLOWER

Division of AMERICAN-Standard



"I moved Today... the **Burnham** way!"



This little lady took all the work and worry out of moving by calling her Burnham agent. The men from Burnham's did all the rest . . . packed and crated her prized possessions in specially designed containers . . . scientifically loaded the modern Burnham Van . . . swiftly and safely delivered everything to her new home . . . unpacked and placed all her furniture just where *she* wanted it. All she did was call the man from Burnham's Van service.

Burnham's Van Service

MOVERS OF
FINE FURNITURE

For a free estimate at no obligation, call your local Burnham agent. You'll find his name in the Yellow Pages.



Call the man with the
Burnham Van.
Home Office, Columbus,
Georgia



"... in his dealings with Congress Tallamy combines his missionary and publicity jobs . . ."

HIGHWAYS starts on p. 106

officials: 'Is there anything we can do to help?' When that's repeated often enough, the local officials will generally get moving," says Tallamy.

"Next come more serious conferences (and generally I take part in them) at which we emphasize how important it is that each state keep to the schedule."

At this stage, unless he's asked by Congress, Tallamy doesn't like to publicize the names of the states that are lagging in their planning, nor will he say precisely how far they are behind. "It embarrasses them," he says, "and just now we don't want to do that. Later, maybe we'll have to change our tactics. If some states lag too far behind, we shall have to embarrass them to get them moving."

• **Winning Over Opponents**—As publicity agent, Tallamy works on the public mind. "There are big areas of the country where many people still aren't convinced of the benefits of limited access highways and by-pass roads. Since thousands of different groups may protest the location of one of the new highways, public hearings on route location can eat up lots of time. Hearings have to be held, of course, but the fewer the better from our point of view."

As the program progresses, Tallamy foresees fewer of these hearings. He says, "As soon as we get a couple of hundred miles of the new limited access highways into those states that don't yet have them, we'll see our troubles fade. People only have to use these highways for a short time before they're persuaded of their benefits."

(Not all of the interstate highways will be four- and six-lane expressways. Some 7,000 miles of the system, most of it in Western states, will remain two- and three-lane roads, and access to them will not be strictly controlled.)

• **Reporting to Congress**—Frequently, in his dealings with Congress, Tallamy has to combine the missionary and publicity jobs. An average day brings him at least one call from a congressman. The equivalent of several weeks of his time each year, he expects, will go into reporting progress to Congressional committees.

At issue in many of his daily calls are proposed additions to the 41,000-mile interstate highway network. Hundreds of proposals for extra mileage have been made. Last year, when



**Where white
must stay white...**

LOOK TO GLIDDEN PIGMENTS!

White products stay white longer when they contain Glidden *Zopaque* Titanium Dioxide. It's the *whitest* white pigment obtainable!

That's why Airflex® white soles by Bearfoot Sole Co., Inc., Wadsworth, Ohio, can easily be restored to their original extreme whiteness even after many months of hardest wear. *Zopaque* helps them take soil and scuffing in

stride—at work or play, in all kinds of weather.

Chances are Glidden *Zopaque* Titanium Dioxide can help give greater lasting whiteness to the white products you manufacture, whether paint, rubber, plastic, paper or ceramic. With greatly expanded production facilities, Glidden can now supply your complete white-pigment needs. Write today for full details.

THE GLIDDEN COMPANY

Chemicals - Pigments - Metals Division

Baltimore, Maryland • Collinsville, Illinois • Hammond, Indiana • Scranton, Pa.



it costs less . . .



● to dig a ditch



● to convey materials



● to load a truck... with machines developed by...

Barber-Greene

AURORA, ILLINOIS, U.S.A.

Literature on request

CONVEYORS...LOADERS...DITCHERS...ASPHALT PAVING EQUIPMENT



56-81-L

"... apart from scandals, schedules are what interest Congress most . . ."

HIGHWAYS starts on p. 106

an extra 1,000 miles was added to the interstate system, bids to share in the additional mileage began flooding in. A few months ago, the bids—each of them labeled "a vitally necessary addition"—totaled more than 12,500 miles of extra highways.

Tallamy's answer to all these requests is: "Let's get the program going smoothly before we add to it." In this, he's backed by members of the Senate's Public Roads subcommittee who are expected to reject practically every bill now before Congress calling for extra mileage.

Within five years, says Tallamy, about one-third of the 41,000-mile system will be ready for traffic. This doesn't mean, though, that construction is due for a sudden leap. Almost one-third of the system is already in use—in the form of expressways and four-lane highways that will be incorporated into the system. However, some of these roads will have to be improved before they're fitted into the system.

• **Watchful Eye**—Since so many billions of dollars are involved, Congress is keeping a sharp eye on the program. So far, the legislators have uncovered only one incident that smacks of scandal. This week, they're looking into charges that collusion was involved in the purchase of some right-of-way land in Indiana. While the investigation continues, Tallamy has cut off federal highway aid funds to the state.

Apart from scandals, schedules are what interest Congress most. Congressmen—and Tallamy—fear the public reaction that would come if construction ever became so badly disorganized that an interstate highway intended to link two major cities lay partly built and unusable for years because two states had failed to coordinate their work.

• **No Breather**—In reassuring Congress about spending and construction schedules, Tallamy keeps reminding them, "After all, it's only just beginning." When the program is finally finished, in 1972, it is expected to take care of the nation's highway needs until the mid-1980s. But by then, estimates are that there'll be almost 100-million vehicles on the highways. So it's a pretty safe bet that a decade and a half from now the highway engineers and administrators will still be saying: "We've only just begun to meet our highway needs." **END**



Bell & Howell's new Filmosound 302-E is the first high fidelity sound projector designed for home and industry.

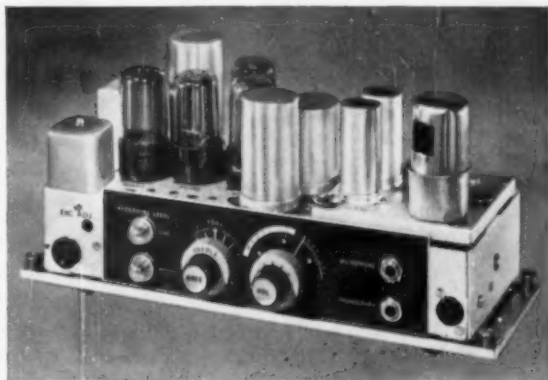
Now for the first time you can put true hi-fi sound on film!

Bell & Howell's new Filmosound 302-E magnetic recording projector marks a major advance in sound movies. This amazing instrument makes it easy and economical to add high fidelity sound to any 16 mm film!

All you do is start projection, add commentary and sound effects as you show your movie. Changes are simple to make. With the 302-E, you get brilliant pictures, easier operation and lighter weight . . . at no increase in price.

\$100.00 trade-in bonus! For a limited time, your old projector is worth \$100.00 more than its "Blue Book" value when you trade it in on a 302-E Filmosound. Your Bell & Howell dealer will also soundstripe up to 400 feet of your favorite 16mm film *absolutely free*—just to demonstrate 302-E performance.

See your dealer today or write Bell & Howell, 7178 McCormick Road, Chicago 45, Illinois.



Hi-Fi Heart of the 302-E

Filmosound 302-E has powerful new 15-watt amplifier with 50% more output. Its wide-range frequency response reproduces any sound in the audible range. Microphone sensitivity has been tripled. Additional "peak" indicator light and automatic switching of input circuits simplify recording.

 **Bell & Howell**
50 YEARS OF FINER PRODUCTS THROUGH IMAGINATION

Overseas Profits Lend a Hand

Colgate-Palmolive's foreign subsidiaries—not yet full-grown—are sweetening earnings while domestic is overhauled.

Last week, officials in the gleaming new offices of Colgate-Palmolive Co. on New York's Park Avenue were joking about how the company's wholly owned subsidiary, Colgate-Palmolive International Co., had taken over the parent company. They were referring to the appointment of Ralph Hart (picture, page 124), formerly International Colgate's president, as executive vice-president of the company.

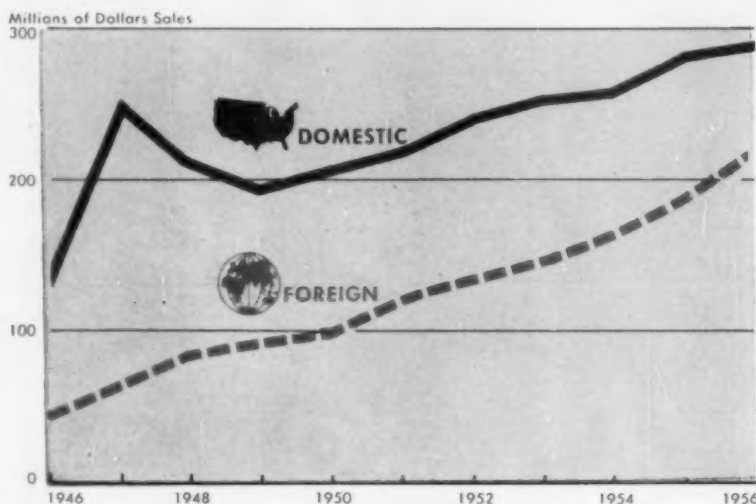
The fact is, as a stockholders' meeting in New York last week demonstrated, Edward H. Little (picture, page 123) veteran chairman and president, is as much in command as ever.

But behind the joke are some statistics (chart, right) that make the position of Colgate's international operations loom larger in the company's total operations. Furthermore, those statistics offer food for thought to other U.S. companies that have not yet looked toward foreign markets as another way of diversifying to insure earnings when domestic markets fall on bad times.

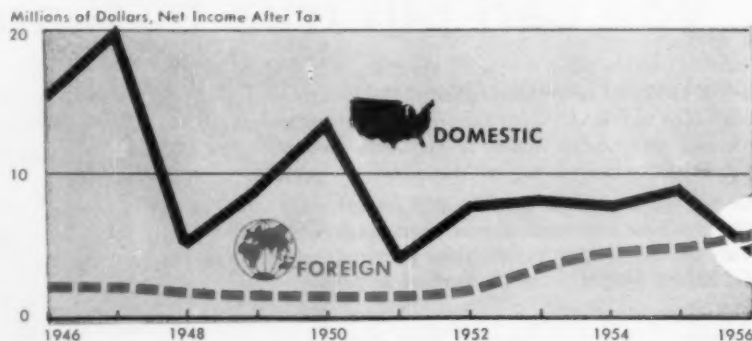
• **Reorganization**—That's just what has happened to Colgate. Little explained to stockholders that a whole revamping of domestic operations is now under way. The new setup will replace the now highly centralized company—which has been a one-man show almost since Little took over as chief executive officer in 1938. What's intended is a staff operation at the top of the company but with operations organized along the lines of three separate entities for the company's three product lines—soaps and toiletries, household cleaning products, and bulk and industrial goods. Little hopes this will trim the fat, boost earnings.

None of this vast reorganizing plan will fall on Colgate's international operations—subsidiary companies and divisions in 32 lands, 29 of them with full-fledged manufacturing operations. The reason they won't be touched is obvious: Colgate's overseas business is booming, and it's turning up a good earnings ratio (bottom chart). And since the foreign sales campaign went into high gear when Little became foreign manager of the combined Colgate-Palmolive-Peet empire after its 1926 merger, the heart of Colgate

Colgate's rising foreign sales have paralleled domestic sales since World War II . . .



But while domestic net income has dipped erratically, foreign earnings have climbed steadily. Last year they passed domestic revenues.



International's standard operating procedure has been decentralization.

• **Overseas Empire**—Today, Colgate overseas is a vast domain. It produces a whole range of soap and toiletry products—including some not marketed in the U.S.—all around the world. The book value of the overseas investment is \$59,784,000. But that's only

a nominal index to its value; Colgate has invested \$32-million in new plant facilities since World War II. (It has another \$22-million in new plants and improvements under way right now.) Last year, these investments earned Colgate \$5,336,000 against \$5,182,000 earned at home—even though the foreign plant is only 36%



**practical office-space planning
leaves the door wide open
for future changes with**

*Movable-Hauserman
Interior Walls*

DISTINCTIVE APPEARANCE is only one of the important reasons HAUSERMAN Interior Walls are used in this attractive, executive office. Movability is important, too. It provides far-seeing management with the means of rearranging office plans to maintain efficient utilization of floor space regardless of future requirements.

Also on the practical side is the low cost of preserving the handsome appearance of HAUSERMAN Walls. The baked-enamel colors need only periodic washing to restore their original beauty. Expensive repainting is forever eliminated. And when it becomes necessary to add on new sections of HAUSERMAN Walls, the colors of the additions will match perfectly the finish on the original installation.

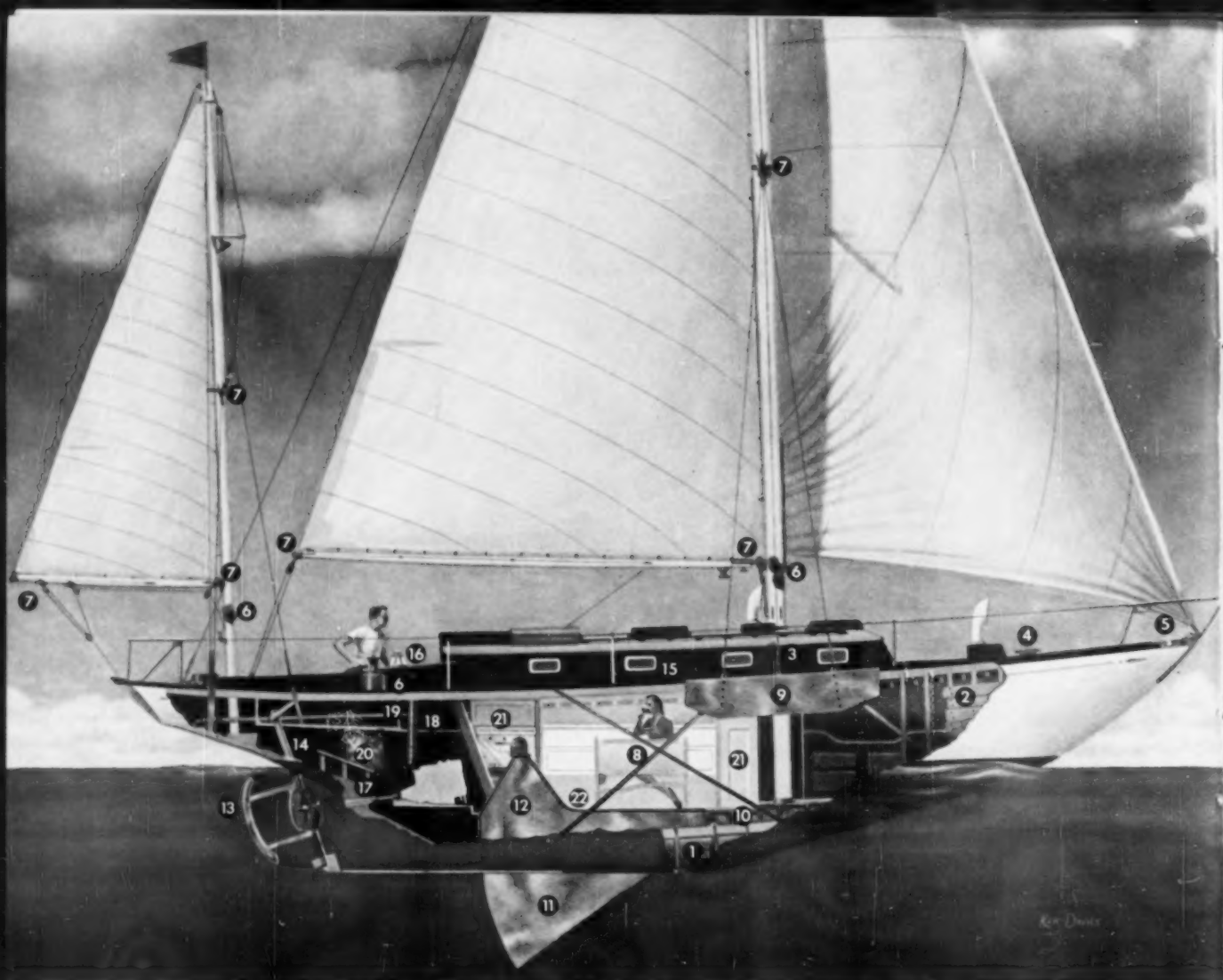
More of the profit-making benefits of HAUSERMAN Walls are explained in the booklet, "How Eight Companies Saved \$595,363." Have your secretary write today for a free copy. Or, better yet, consult the Yellow Pages (under PARTITIONS), and call your nearest HAUSERMAN representative.



THE E. F. HAUSERMAN COMPANY

7433 GRANT AVENUE • CLEVELAND 5, OHIO

Hauserman of Canada, Ltd., Toronto, Ontario



Nevins shoal-draft 40-foot yawl, "Series A," cut away to show a few of the many places Anaconda marine metals are used in building a fine boat. Designed by Sparkman & Stephens, N. Y. Built by Nevins Yacht Yard, City Island, N. Y.

Look for seaworthy Anaconda metals in these vital spots

REFERENCE LIST

FASTENINGS: 1 Keel and frame bolts, 2 screws for planking, fittings, and hardware—Everdur.

FITTINGS: 3 Turnbuckles, 4 cleats, 5 chocks, 6 winches, 7 all spar fittings—Everdur.

STRUCTURAL: 8 Hull strapping, 9 chain plates, 10 mast step, 11 centerboard and 12 trunk, 13 rudder strapping and fittings—Everdur. Power boat metal parts in slipstream or turbulence—Naval Brass, manganese brass or phosphor bronze.

14 Rudder post—Tobin Bronze.

HARDWARE: Hinges, handles, 15 lights, trim, 16 binnacle housing—brass or Everdur.

POWER: 17 Propeller shafting—Tobin Bronze. For high speed, heavy duty—Tempaloy. Fuel line, 18 muffler, 19 exhaust tubing—copper.

20 Fuel tank—tinned copper or tinned Everdur.

MISCELLANEOUS: 21 Plumbing for head and galley—copper tube with brass or bronze fittings. 22 Water tanks—tinned copper.

THE PROBLEM: Water's the big enemy of metal. Copper, of course, won't rust and it does a wonderful job of resisting corrosion. But in many uses, it isn't strong enough. Even some brasses and bronzes can't take tough marine service.

THE SOLUTION: Over the years, Anaconda's American Brass Company developed special alloys for a wide variety of marine needs. Everdur,® Anaconda's family of copper-silicon alloys, heads the list. These alloys are equivalent to pure copper in corrosion resistance, yet possess high strength and toughness.

Tobin Bronze,® another exclusive

Anaconda product, is the time-proven leader in propeller shafting. In addition, there is a long list of special Anaconda brasses and bronzes, suited to marine uses.

THE FUTURE: Just as Anaconda helps our number-one recreation industry with its special metal needs, it can help you. For Anaconda and its manufacturing companies—The American Brass Company and Anaconda Wire & Cable Company—offer the world's broadest line of nonferrous metal products. For help in your metal problem, call the *Man from Anaconda*. The Anaconda Company, 25 Broadway, New York 4, N. Y.

ANACONDA®

THE AMERICAN BRASS COMPANY—ANACONDA WIRE & CABLE COMPANY



EDWARD LITTLE, chairman and president, will revamp Colgate's U. S. operations.

of the company's total investment.

Little predicts that sales abroad will double "within the next few years." If current overseas profit margins can be maintained, that should make for an ever greater success story.

• **New York Control**—When Colgate set out to build an overseas empire (the beginnings had already been laid by Little as export manager for the old Palmolive-Peet Co.), the U. S. organization was taken as the pattern. But Little believes that each unit must have a certain amount of autonomy, that the best management is local talent. That's why Colgate has only a few Americans running its foreign companies. Such relatively large operations as Colgate in France and Italy don't have a single American on their staffs.

However, a superstructure back in New York guides the whole operation. Colgate International has a staff operation with a chief executive responsible to the parent company for all foreign business. It has vice-presidents for sales and advertising, manufacturing, engineering, legal affairs, and three regional vice-presidents—one for Europe, one for the Western Hemisphere, and one for the Far East and South Africa.

• **Local Talent**—The overseas companies run their own sales, advertising, and manufacturing operations patterned after the U. S. domestic setup wherever possible and practical. But it isn't always. For example, until now Italy has been letting contracts for its manufacturing operations to local Italian producers and importing other products from the British Colgate company. In France, in the 1930s, Colgate took over a famous French soap manufacturer's name and facilities. Today it's selling this heavily perfumed French-type soap

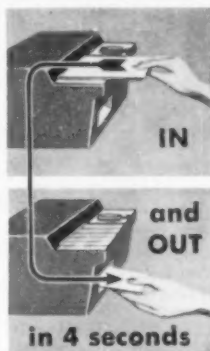
Now! 4-second copying speed at a new low cost!



Copies business facts and figures as fast as you say, "No chemicals or negatives."

All-new and All-Electric! This modern, newly styled THERMO-FAX "Secretary" Copying Machine gives you copies of letters, statements, orders, invoices and other business data right when you need them. You make copies

in 4 quick seconds for as little as 5¢ each. All-Electric machine eliminates chemicals, negatives and special installations. And now you get all these exclusive advantages of the only dry process copy maker for just \$299.00*. Send coupon below for details.



*Suggested retail price.



The terms THERMO-FAX and SECRETARY are trademarks of Minnesota Mining & Mfg. Co., St. Paul 6, Minn. Gen. Export: 99 Park Ave., New York 16, N. Y. In Canada: P. O. Box 757, London, Ont.

Minnesota Mining & Manufacturing Company
Dept. HR-547, St. Paul 6, Minnesota

Send full details on the cost-cutting new THERMO-FAX "Secretary" Copying Machine.

Name _____

Company _____

Address _____

City _____

Zone _____

State _____

"If Company X employing 300

workers located in Iowa,

Payroll Savings

alone would total

\$265,363 Annually"

... from the FANTUS area

research study of IOWA

This Iowa "Industrial Resources" study lists the industries which can profit most from an Iowa location. It shows in detail how and why they can gain through an Iowa location. By industry classification the study makes a thorough evaluation of factors such as: proximity to consumer and industrial markets and their potentials; proximity to raw materials and parts supplies; quality, aptitude and supply of labor; wage rates; transportation, and power facilities.

Among those industrial classifications with a unique 'economic fit' in Iowa are: chemical processing, packaging materials, non-durables, metal work-

ing and machinery, electrical and electronic equipment. Possible annual savings in payroll, shipping, and other types of costs amount to many thousands of dollars.

The Fantus study of Iowa digs deep, is objective, examines every aspect of every factor which would be involved in locating various types of manufacturing facilities in the state. Seldom, if ever, has a study so helpful to industrial planners been prepared.

This information will be made available to companies considering new plant location now or in the future. Contact the Iowa Development Commission.



IOWA DEVELOPMENT COMMISSION

367 Jewett Building • Des Moines 9, Iowa



RALPH HART, former top man at International, becomes executive v-p of Colgate.

throughout Western Europe—and Colgate, an American company, is plugging the French-ness of product.

In Australia during World War II, when import restrictions cut off U.S. and British-made cosmetics, the company launched a luxury line that it is still producing.

• **Madison Avenue Techniques**—With these exceptions and the differences produced by different conditions in the various markets, the company's overseas sales are made up of soaps, dentifrice, and detergents. It pushes these lines exactly the way it does in the U.S. Advertising is to the foreign soap business just what it is in the States—which explains why Colgate spent more than \$30-million on advertising overseas last year. The bill will be bigger this year—although how much Colgate isn't saying.

Actually, the big question ahead for the company's international operations is how far the intensive, expensive U.S. competition is infecting the overseas markets. For years, overseas promotion costs were small compared to the U.S. That's explained by several conditions. Until now the fantastic growth of the overseas markets has left enough room so that Colgate and its two principal rivals, British-Dutch Unilever (BW-Jul.16'55,p122) and Procter & Gamble could stick to their own respective specialties. That meant, in effect, that Colgate put the accent on toiletries and dentifrices. Unilever on soap, and P&G—a relatively slow-starter overseas—concentrates on detergents.

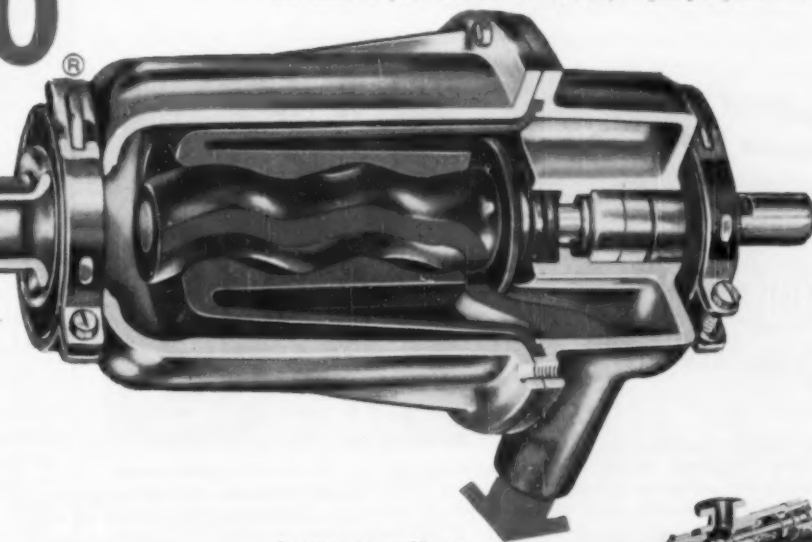
• **Race for Markets**—As the years roll by, there is more and more overlap among the three giants. Already Colgate is doing well with heavy-duty soap powder in Italy where, despite the fact that there are 40-odd local soap and detergent manufacturers, Unilever and

*if it can be pushed
through a pipe . . .*



*you can pump
it with a*

MOYNO



No doubt, in your plant, certain materials are being moved by hand expensively that could be pumped economically by a Moyno. They pump anything that can be forced through a pipe . . . from very thin liquids to heavy, non-pourable abrasive substances . . . even materials containing suspended particles! As the illustration shows, progressing cavities, formed by the helical screw-like rotor turning inside the double-helical stator, move smoothly along, carrying the material with them . . . the cavities don't squeeze the substance . . . can't stick or gum up. Moyno pumps will not cause churning, foaming . . . won't aerate or vapor-lock!

Moynos are adaptable for a wide range of substances simply by modifying the materials the pumping elements are made of. They are available to pull up to 29" of vacuum while discharging under pressure. If you have a pumping problem, chances are a Moyno will solve it!

Write today, for Bulletin 50-BZ or look in the yellow pages for name of your nearest R & M Moyno pump representative.

Industrial type Moyno . . .
available to 500 gpm, pres-
sures to 1000 psi.



ROBBINS & MYERS, INC.

SPRINGFIELD, OHIO

BRANTFORD, ONTARIO



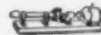
Motors



Fans



Hoists



Moyno Pumps



Propeller (Industrial) Fans



FOR ALL-PURPOSES, ECONOMICALLY AND EFFICIENTLY

PS POWERFULLY STRONG

Item No. C-1361

Adjustable STORAGE RACKS

Easy to Assemble

For any storage need—plant, warehouse, store—inside, outside, anywhere—for any type materials, large or small, light or heavy—steel, copper, aluminum, brass, wood, brick, food, anything.

Shipped to you ready for assembly in a few minutes, without bolting or welding. Use in any size area. Built to any height for use in single, double or multiple sections. Adjust shelves to any level.

DESIGNED AND MANUFACTURED BY

Palmer Shile Co.

16031 FULLERTON, DETROIT 27, MICH.

BOSTON, Mass., CO 6-0570 • BURLINGAME, Calif., DI 2-0823 • CHICAGO, Ill., AUstin 7-8599 • CLEVELAND, Ohio, SU 1-3233 • DENVER, Colo., AL 5-3984 • FLINT, Mich., CE 8-6881 • FORT WAYNE, Ind., KE 5408 • INDIANAPOLIS, Ind., ME 5-2587 • LOS ANGELES, Calif., RA 3-3733 • ST. LOUIS, Mo., PR 1-1474 • WHITE PLAINS, N. Y., White Plains 6-1354

Note rack shelf adjustability to any level for miscellaneous stock needs.



Racks 24 feet high in automotive plant.



Heavy steel dies conveniently handled.

Magnificent
Oklahoma County
Courthouse Is
Equipped with

FRICK Air Conditioning



This beautiful building in Oklahoma City is divided, for air conditioning purposes, into 31 zones. Chilled water for cooling the air is provided by three Frick "ECLIPSE" compressors, delivering 450 tons of refrigeration. Each compressor is driven by a direct-connected motor

of 150 horsepower, running 1200 r.p.m. Installation by Kay Engineering Company, Frick Distributors at Oklahoma City. William J. Collins, Jr., Consulting Mechanical Engineer. Manhattan Construction Co., Contractors.

For that important air conditioning, ice making, quick freezing or other cooling job of yours, specify Frick Refrigeration and be sure of permanent satisfaction. Write to



Frick water coolers and "ECLIPSE" compressors which air condition the Courthouse at Oklahoma City.

DEPENDABLE REFRIGERATION SINCE 1882
FRICK CO.
WAYNESBORO, PENNA., U.S.A.

Colgate carve up most of the business.

Colgate got a preview in Britain of what it might expect as the company's competition gets keener. In the early postwar period, Colgate got into a detergent war with Thomas Hedley & Co. (P&G's British subsidiary), and, in a somewhat lesser degree, with Unilever. Colgate rushed to put Fab on the market to beat P&G's Tide. But it wasn't ready and by the time Tide hit the market, the Fab operation was in trouble. Nevertheless, Colgate continued to spend heavily on Fab promotion.

The New York management called in William T. Miller—an international trouble-shooter for the company—to clean up the situation. Miller switched the signals, diverted promotion funds to Cadum toilet soaps (bringing in the French company's product) and Ajax cleanser. Now Cadum has 7% of the British toilet soap business, Ajax has climbed from 15% to 35% of the cleanser business. Miller's three-year reign in Britain boosted sales from \$15.4-million in 1952 to \$21-million in 1955 and quadrupled profits, boosted office morale, and renewed the confidence of Colgate's suppliers. His British performance probably explains why Miller has been called in as the domestic company's first vice-president and general manager of soap and toiletries under the new U.S. reorganization.

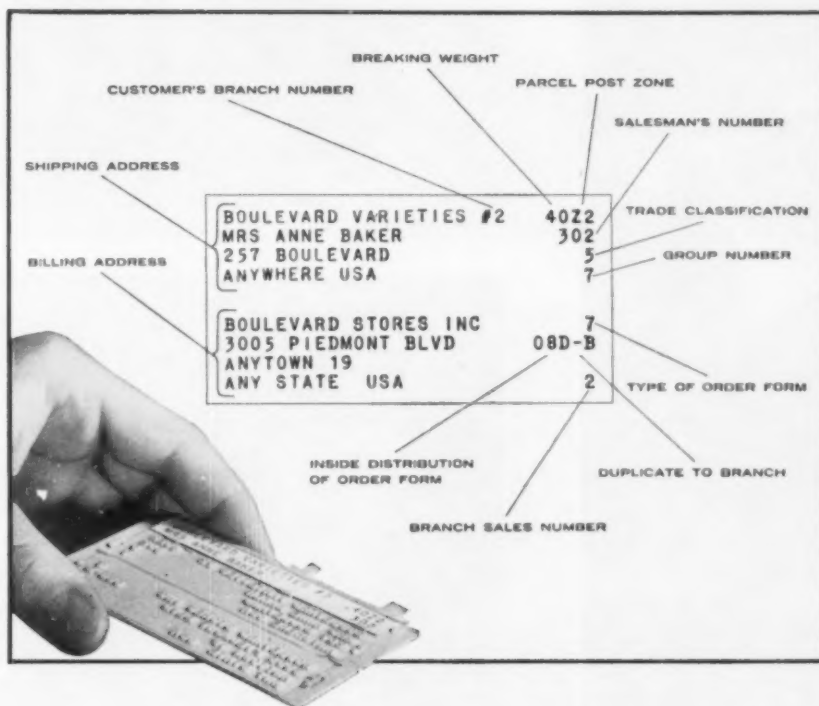
• **Full Speed Ahead**—The kind of competition that hit Colgate in Britain may be ahead elsewhere. That's why Colgate's plant building and renovation program abroad is going full speed ahead. This summer, the company is completing a \$10-million, three-plant complex at Anzio to reinforce its hold on the Italian market. Last year, sales in Italy totaled \$25-million.

The Italian construction is only part of the program that includes a detergent plant being built in Venezuela, a Colombian detergent plant at the ready mark this spring, a new detergent and toiletries plant in France, and a small detergent plant just getting under way in South Africa.

• **Financing**—These plants are being built mostly with local financing—including 50% of the profits that is not remitted to the parent company, and local borrowing. Little explains that even high local interest rates permit more efficient borrowing for foreign expansion than remitting dollars abroad at constantly varying exchange rates. In some cases local profits have soared so spectacularly that it has been necessary to put them into investments other than plant facilities when they could not be remitted because of exchange difficulties. That was true in Italy, where Colgate built an elaborate office and apartment building in Milan. **END**

Addressograph®...the machine you never have to pay for...

IT PAYS FOR ITSELF IN SAVINGS



**Distributor
recovers
investment in
8 months!**

Preparing 350 order-invoices, 175 bills of lading and 700 shipping labels every day used to be a complicated process. Errors were common. Then the Addressograph man designed a master reference file, incorporating all necessary information on self-writing Addressograph units. In just 8 months the installation paid for itself in time savings alone—and errors were eliminated!

**Manufacturer saves thousands of
dollars a year in preparation of personnel
records alone!**

There was a time when 19 people were needed to do the personnel paperwork for 4800 employees. Over 100 different forms were used. The Addressograph man had the answer. He helped the personnel manager design 5 basic forms, recommended time and money-saving Addressograph equipment. Result: 7 clerks now process all employee records—the company saves thousands of dollars a year in personnel department paperwork alone!

*Ask your nearby Addressograph man to show you how Addressograph methods can save you money; or write Addressograph-Multigraph Corporation, Cleveland 17, Ohio—Simplified Business Methods.**



Addressograph-Multigraph

PRODUCTION MACHINES FOR BUSINESS RECORDS*

© 1957 A-M Corporation

*Trade Marks

SERVING SMALL BUSINESS—BIG BUSINESS—EVERY BUSINESS



SEMINAR at Columbia studies trade and overseas operations.



PROFESSOR Roy Blough heads Columbia program . . .



. . . which graduates first group this year . . .



SALARIES awaiting June grads of the new Columbia B-School program will be slightly better than average offered to classmates.

B-Schools Grooming

SOME 20 students will leave the classrooms of Columbia University's Graduate School of Business next month with degrees in international business. They constitute the first group to complete the business school's newest specialized program.

After graduation, these 20 young men will go into jobs with companies such as Standard Oil of New Jersey, International General Electric, and International Business Machines. Their starting salaries will be from \$5,400 to \$6,000 a year—slightly more than the average for other Columbia B-School graduates this year.

There's no telling how or where these young men will end their business careers. But, right now, they are guinea pigs in an experiment that is bound to be important to American overseas business in the years ahead.

• **One of Three**—It's an experiment in adapting a well-established pattern of business education to the international field. The Harvard B-School also has just launched a program in international business administration, on a smaller scale. And the B-School at the University of Indiana is in the process of organizing one.

Columbia's first crop of IB graduates



... in international business. These students ...



... are among 55 now enrolled in the program ...



... and will send alumni into good jobs ...



... with U.S. corporations operating abroad.

Men for International Business

is far too small to satisfy the demand for specialized personnel in a center of international business such as New York. But Dean Courtney C. Brown and Prof. Roy Blough—who heads the program—think that the present enrollment—about 55 IB students out of a total of 900—is about right at this stage. They know they still have a lot to learn about training would-be international business executives. Before long, Dean Brown thinks, at least 10% of the Graduate B-School students will be specializing in international business.

The new program has been one of Brown's special babies ever since he

became B-School dean in 1954, after eight years with Standard Oil of New Jersey, part of the time as assistant to the board chairman. The experience in the oil business—plus a long Washington hitch in the war years—convinced Brown that U.S. business schools weren't paying enough attention to the need for young men trained in the international field. So, after going to Columbia, he selected Blough—former member of the Council of Economic Advisers and an economic program director at the United Nations—to head the new international business division.

• **Curriculum**—The program shaped by

Brown and Blough has four major objectives:

- To create a field of specialization in international business.
- To provide other students with some knowledge of the subject.
- To institute special training programs for business executives.
- To pursue research in international business problems.

There are now courses in international investment and overseas operations, technical problems of exporting and importing, and an introductory survey of international business. The program also includes an advanced



Thinking about locating a plant in Ohio, Indiana or Illinois? Then check Nickel Plate's survey service.

NKP has information on available sites—plus facts on utilities, taxes, transportation and other data you'll need to know. In fact, every NKP survey is tailor-made to *your* requirements.

Let NKP know those requirements. Please contact M. H. Markworth, Nickel Plate Road, 1402 Terminal Tower, Cleveland 1, Ohio. MAin 1-9000.

I had to find a plant site...
NKP SURVEYS MADE MY JOB EASIER



DEAN Courtney C. Brown of Columbia B-School launched program to apply business school methods to foreign field.

seminar, emphasizing trade and investment policies of various nations and the work of international economic agencies.

Related courses are given in international banking, international trade, foreign investment counseling, international transportation, and various geographic areas. Next year a course in international financial transactions will be added.

• **Perspective**—Columbia's idea is not to develop its students into technicians in the minutiae of foreign trade. It is assumed that matters such as how to complete a bill of lading will be learned on the job. The aim is to instill a broad understanding of international business problems and of the kind of world economy that has been developing since World War II. What's more, the emphasis is more on foreign investment and the operation of foreign branches and subsidiaries than on foreign trade in the traditional sense. This is in accord with the postwar shift in the U.S. from exports to overseas operations.

The program treats international business as essentially similar to domestic business—with the added dimension of "foreignness." This is not just the problem of using a foreign currency or language. It's a problem of dealing with people who may think and feel differently than Americans, and who have governments and legal systems different from our own.

Because Columbia regards international business as domestic business plus "foreignness," the student has to know accounting, statistics, economics, business law, transportation, marketing, management, and the like, as any B-School colleague does.

• **Scholarly Study**—Columbia's research



**SAVE—In Every Way
with MERCURY Fork Trucks**

MERCURY SAVES SPACE—maneuvers easily in confined areas, stacks to ceiling.

MERCURY SAVES TIME & LABOR—operates at fast, safe travel and hoist speeds . . . cuts tying time.

MERCURY SAVES MONEY—lower operating costs, greater longevity . . . less maintenance.

Protect and Save on Your Investment, Select Mercury Fork Trucks—2000 to 8000 lb. capacity—they're made better, to work better, to last longer!

Attach coupon to letterhead for complete facts and literature

MERCURY
MANUFACTURING COMPANY
4146 South Halsted Street • Chicago, Illinois

Name _____

Company _____

Address _____

City _____ State _____

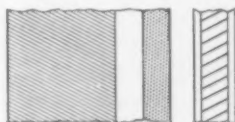
Give your new building a bright future with curtain walls of porcelain enamel

Before you put up a new building it is important to ask yourself this question: "How will it look in twenty-five years—will its value depreciate because it has a 'dated' appearance that belongs to another era of building materials?"

Curtain walls of durable porcelain enamel on Armco Enameling Iron are the way to assure the "look of the future." For large or small buildings, they give your architect unlimited freedom in design and color. And they give your building the face you want the world to see.

Curtain wall construction in colorful, lasting porcelain enamel is not designed for beauty alone, however. There are other solid, practical reasons:

SAVES SPACE—Curtain wall construction does away with thick, ponderous walls that consume high-price space.



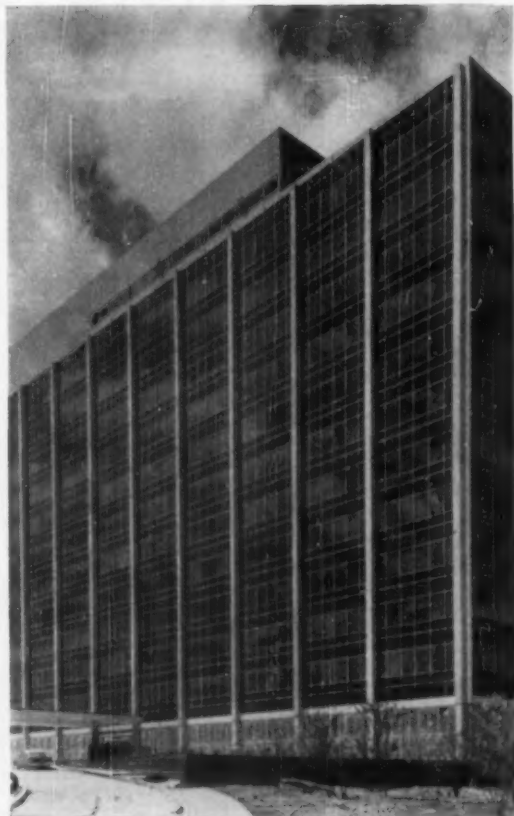
Compare the relative thickness of the curtain wall (right) with the average conventional wall.

GIVES MORE EFFICIENT INSULATION—Insulating materials between the outer curtain and inner facing provide maximum efficiency in any climate.

SPEED IN ERECTION—A curtain wall goes up fast because factory-made panels are easy to put up. This cuts erection costs and gets the building "under roof" quickly.

LOWER MAINTENANCE—Porcelain enamel has a hard, glass-like surface that is virtually immune to weathering. It will not fade or discolor. The washing action of rain provides a natural cleaner for its smooth, hard surface. Keeps building bright and new-looking.

For more information about curtain walls of porcelain enamel on Armco Enameling Iron, write Armco Steel Corporation, Middletown, Ohio.



Ford Central Office Building, Dearborn, Michigan
Architect: Skidmore, Owings & Merrill



Office Building, McDonnell Aircraft Corp., St. Louis, Missouri Architect: Harris Armstrong

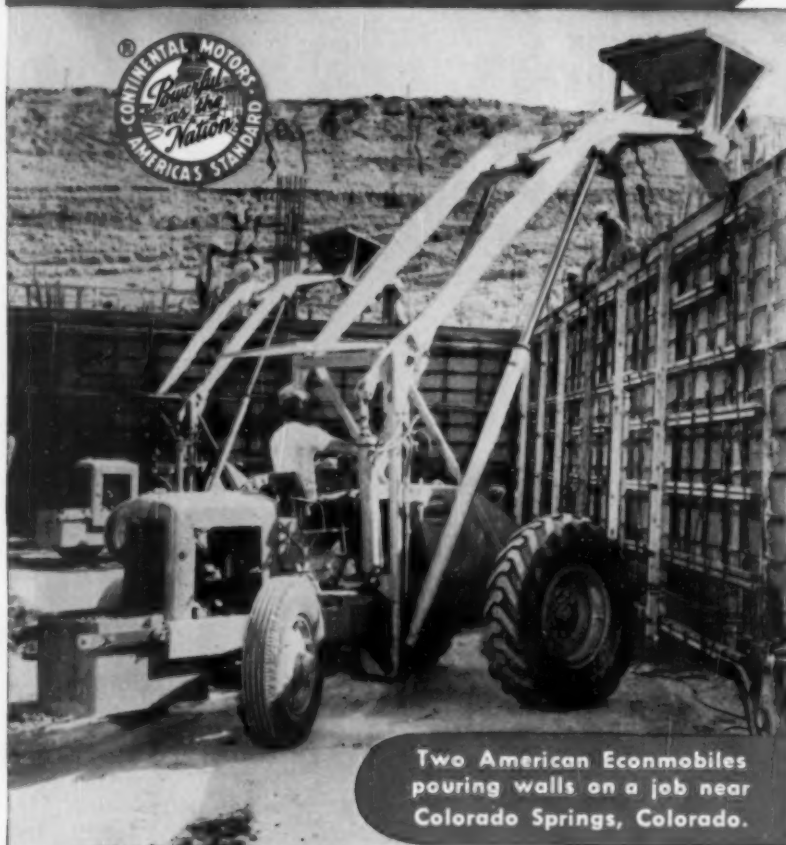
ARMCO STEEL CORPORATION

MIDDLETOWN, OHIO



SHEFFIELD STEEL DIVISION • ARMCO DRAINAGE & METAL PRODUCTS, INC. • THE ARMCO INTERNATIONAL CORPORATION

Continental-Powered ECONMOBILE



"Cuts Labor Costs in Half"

That's the report from Massa Brothers, Inc., Pennsylvania contracting firm, on completion of a 1½-year project consisting of two schools. "The Econmobile, in spite of rain and mud, was always working, hauling materials from storage site to actual installation, eliminating most of the jobs normally done by helpers, and doing them more economically and efficiently. It paid for itself many times over."

MASSA BROTHERS' EXPERIENCE LENDS ADDED FORCE TO THE SUGGESTION: YOU'RE BETTER OFF WITH EQUIPMENT WITH DEPENDABLE RED SEAL POWER.

Continental Red Seal engines are available for use on all standard fuels. There's a model engineered to the needs of every construction job.

Continental Motors Corporation

MUSKEGON • MICHIGAN

6 EAST 45TH ST., NEW YORK 17, NEW YORK • 3817 S. SANTA FE AVE., LOS ANGELES 38, CALIF.
9218 CEDAR SPRINGS ROAD, DALLAS 9, TEXAS • 1252 OAKLEIGH DR., EAST POINT (ATLANTA) GA.

program in international business is already under way. The first major project—financed by the Ford Foundation and undertaken in collaboration with the Columbia Law School—is a three-year study of joint international business ventures. It will concentrate on overseas enterprises in which U.S. interests either (1) have an important equity in association with local or other foreign capital, or (2) contribute management, technical assistance, patents or other services, through licensing or other contractual arrangements.

The aim is to discover several things about joint ventures:

- The conditions most favorable to them.
- The contributions they can make to underdeveloped areas.
- The legal or administrative changes that might increase the flow of international capital into joint ventures.

One purpose of the research project is to help Prof. Blough develop case material for his advanced courses. Applying the case method effectively strikes Blough as being one of his most difficult teaching problems.

Columbia B-School also plans special courses or seminars to orient U.S. executives suddenly deployed to foreign assignments without previous training or experience. The school is considering special courses for foreign employees of U.S. affiliates.

• **Student Body**—At the moment, though, the full-time students of international business get most of Blough's attention. Most are Americans. Many of them have served overseas in the U.S. armed forces. Some plan careers in international business for much the same reason that other students aim for the Foreign Service—international affairs intrigue them. Others simply feel that the field offers especially favorable opportunities.

Certainly there are plenty of good jobs awaiting this year's Columbia graduates. The same is true at Harvard B-School, where Prof. Lincoln Gordon gives an intensive second-year graduate course in international business and economic relations. In fact, it's becoming quite clear that more and more U.S. companies—particularly those pushing overseas operations—could use far more B-School graduates with international business training.

There was evidence of this interest in the Midwest recently. Pressure from industry encouraged Dean A. M. Weimer of the Indiana University School of Business to convene a special conference in late March to discuss a program in international business administration. Columbia's Blough and Harvard's Gordon were both called in to make their contributions to the discussion. **END**

Aviation Memo:

American Gives You...

One Recess,
One Tool Design
for every aircraft
fastening job



the name is Torq-Set

and it's the only fastener that will meet your future requirements, too.

1 TORQ-SET, by American, is the only fastener of its kind with a recess that will do all your fastening jobs. The exclusive design adapts to all head configurations in an unlimited range of sizes.

2 With TORQ-SET, a one piece bit adjusts easily to any type wrenching tool, providing close-to-head operation on every fastening job.

3 As a completely forged product, TORQ-SET fasteners are mass produced in quantities by American to assure you adequate supply for all your aircraft fastening jobs in one recess design. This production method, in one operation, assures extreme precision in unlimited quantities combined with superior strength.

4 TORQ-SET can be power-driven tighter, yet removed without difficulty — in every fastening job. Its unique wrenching recess with driving walls that form a direct axis for driving makes this possible. TORQ-SET is supplied in high strength alloy steels (including the newer heat-resistant types) and is designed to permit extremely high wrenchability without burring or distortion.

5 TORQ-SET is the only high torque recess that can meet both present and future needs. It is capable of delivering torque values far in excess of present aircraft requirements. For example, the average torquing ability of the $\frac{1}{8}$ inch TORQ-SET is 2540 inch pounds, 58% higher than actually required.

Find out how TORQ-SET can help solve production problems. Write, wire or telephone American Screw Co., Willimantic, Connecticut.

*The biggest news
in fasteners comes from...*



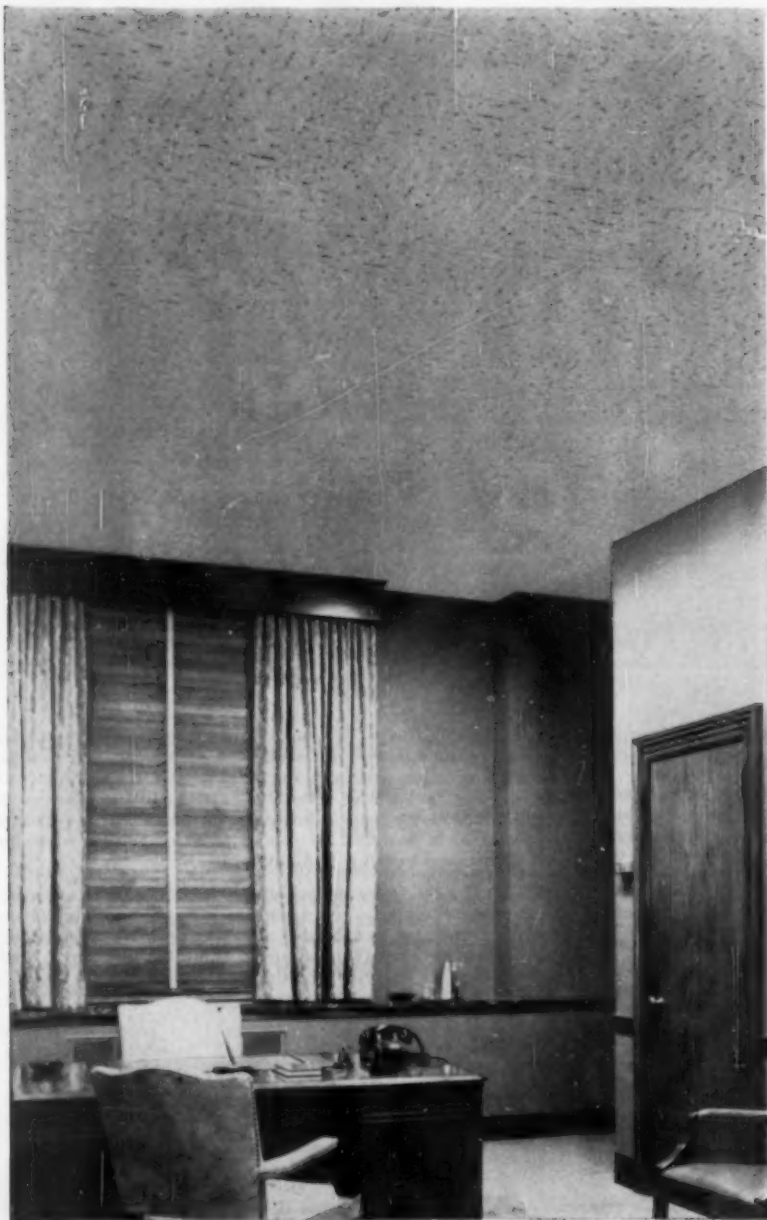
American!

AMERICAN SCREW CO. • WILLIMANTIC, CONN.
Norristown, Pa. • Chicago, Ill. • Detroit, Michigan

West Coast Sales Office and Warehouse: Air Industries of California, 922 W. Hyde Park Blvd., Inglewood, California

New noise-quieting ceiling has luxurious look at low cost

Exclusive textured styling in Armstrong **Cushiontone**
sound conditions as it decorates



Here's a new concept in ceiling design . . . rich, distinctive fissuring on a random textured background. It's an economical wood fiber tile styled to match the luxurious beauty of costlier materials.

The exclusive textured design now available in Armstrong Cushiontone offers architects and interior designers even greater opportunity to create up-to-date, high-styled interiors in your offices and commercial areas.

For a free estimate and further information on Cushiontone, contact your Armstrong acoustical contractor.

A Free booklet, "Quiet at Work," shows how sound conditioning with Cushiontone and other Armstrong acoustical materials can work for you by increasing comfort and efficiency. Write Armstrong Cork Company, 4205 Indian Road, Lancaster, Pennsylvania.

Smartly styled textured ceiling of Cushiontone brings fresh beauty to any commercial interior. Its attractive design simulates the appearance of more expensive sound-absorbing materials.

Armstrong ACOUSTICAL CEILINGS

Cushiontone® • Travertone® • Arrestone® • Minatone® • Corkoustic® • Crestone® • Perforated Asbestos Board

*TRADE-MARK

In Business Abroad

• • •

Outcries of Panama's President Leave Washington Unfrightened

Washington isn't taking too seriously the hassle with Panama over the Panama Canal that has developed since last fall's Suez crisis. The nationalistic statements made several weeks ago by Panama's Pres. Ernesto de la Guardia were seen as merely minor outbursts that will go on as long as the U. S. runs the canal.

One clause of the original 1903 treaty with Panama says the U.S. has "all rights, as if sovereign," in the Canal Zone. But Washington points out that, Panama's occasional outcries to the contrary, the U.S. does not claim sovereignty—and doesn't intend to.

Beyond this, Washington claims that the wage-scale formula for Panamanian workers in the Canal Zone, laid out in the 1955 revision of the earlier treaty, has been pretty successful. The U.S. has stopped sales of commissary goods to Panamanians—as outlined in the treaty at the request of Panama City merchants. And the U.S. has already authorized money for a bridge over the canal.

What is still pending before Congress—as an implementation of the 1955 treaty—is the return of \$25-million worth of property to Panama. The State Dept. is pushing for Congressional approval.

Washington's relaxed attitude toward Panamanian criticism these days stems, in part, from the declining military importance of the canal. The biggest carriers can no longer use it. And in view of the current short-war theory—which holds that the outcome of any large-scale war would be determined within days or weeks—the U.S. wouldn't have time to worry about moving stocks of strategic goods through the canal.

As a sign of good relations with Panama, Washington points to last week's Carib-Ex operation where a U.S. task force—with the full cooperation of Panama—put on a simulated attack on the canal with both Panamanians and other military observers from Latin America watching.

• • •

Latin Americans Renew Proposals For New Bank—But U.S. Still Frowns

This week, at a meeting of the Organization of American States in Buenos Aires, several Latin American countries revived the old issue of forming an inter-American bank for financing basic economic projects. But—at the moment—it looks as if the U.S. won't have any part of the proposal.

Such countries as Chile, Cuba, Venezuela, and Panama—in one form or another—have argued that the U.S. soon will have to give in and help set up a new financial institution to supplement the World Bank, the Export-Import Bank, and other sources of aid.

Washington's answer to this is that a new credit institution would merely encourage squandering of already

sizable aid granted to Latin American countries. It would also—in Washington's view—spur economic development so fast that new inflationary pressures would build up in these countries and thus worsen the climate for much-needed private investment.

U.S. officials in Buenos Aires are pointing out that Latin American countries could (1) draw more heavily on the World Bank and Ex-Im, and (2) probably get increases in aid under Secy. of State Dulles' proposal for a revolving loan fund—if Congress approves it.

Yet, under the Dulles proposal, Latin American countries would have a disadvantage in having to compete with the world at large for loans on a political and military basis.

• • •

North Ireland Lures 5 U.S. Companies In Campaign to Build up Industry

Northern Ireland's campaign to attract U.S. companies is gaining ground.

The Belfast government says that four U.S. companies—Chemstrand, Berkshire Knitting, Behr-Manning, and Hughes Tool—are setting up new plants and investing a total of about \$18-million. That figure will nearly double when du Pont puts up the synthetic rubber plant near Londonderry that it has in the works.

• • •

British Auto Makers Score Comeback, Notably in Exports to U.S. Markets

The British auto industry is making good its drive to pull production and exports out of last year's doldrums.

Latest figures put the industry's average weekly output at about the same level as before the Suez crisis. Car exports during March hit 35,925 or roughly 50% of production—the highest proportion in three years.

The brightest sign of all is the sharp upturn in exports to the U.S.—7,913 cars worth \$9.2-million during March or three times the same period in 1956.

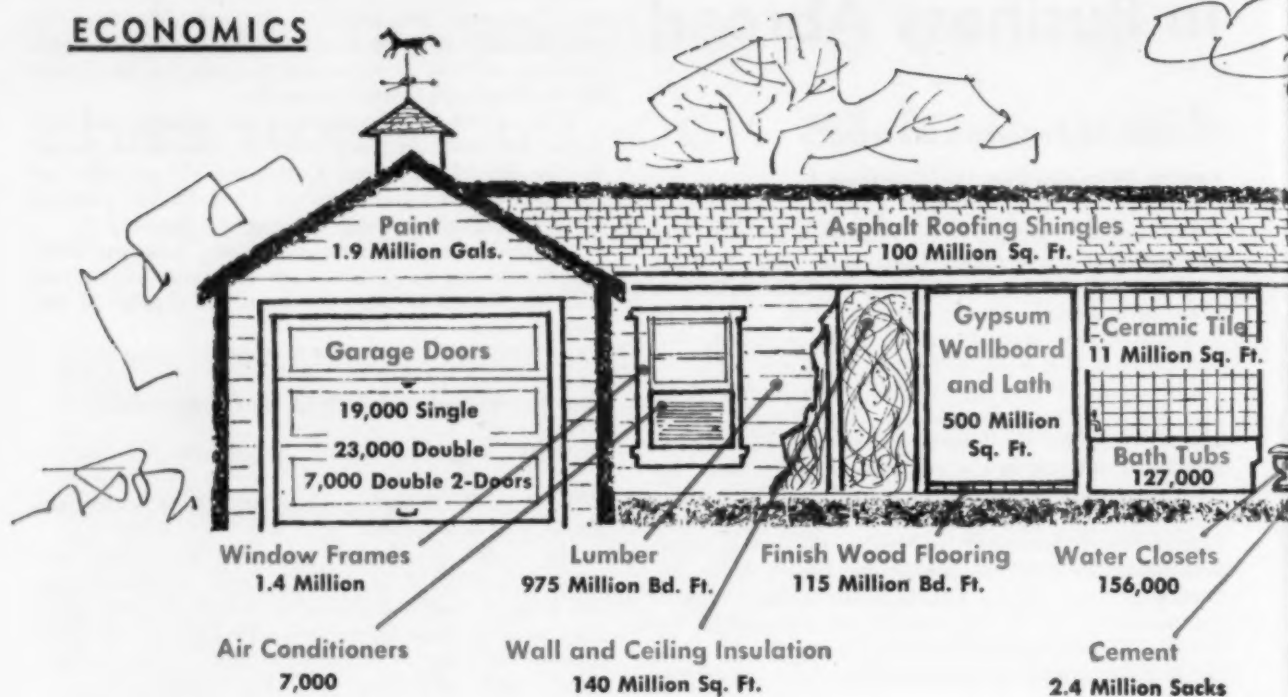
• • •

Business Abroad Briefs

Russia's famed aircraft designer Tupolev is reportedly developing a huge jet passenger plane that will carry 170 passengers.

Oil in Turkey? Esso Standard (Turkey) Inc., has begun drilling in Thrace on the western side of the Dardanelles. The affiliate of Jersey Standard has four exploration licenses in the country, covering over 400,000 acres.

Allis-Chalmers Mfg. Co., which had licensed production of its equipment in Australia, has now set up a wholly owned subsidiary Down Under to supply construction machinery to the local and Southeast Asia market. Allis-Chalmers' move follows closely on the heels of Caterpillar Tractor's setting up of Australian manufacturing facilities.



What a Drop in Housing

The drawing shows the volume of materials for the foundations, shells, and basic operating equipment of 100,000 houses. From these figures you can calculate the direct impact on producers of these materials as building declines.

But, some of these losses are made up by gains in other fields.

And the indirect effect on makers of appliances and home furnishings, as well as on the economy as a whole, is almost impossible to measure.

AN OFT-CITED AXIOM of American business says that homebuilding is one of the main props of the economy. Weaknesses in housing are assumed to depress many related industries. But it's hard to pin down exactly which industries and how much they are affected.

The drawing above gives an idea of the direct effect of a decline of 100,000 housing starts—the impact on the industries that produce the foundation, shell, and basic operating equipment of the house. Housing starts are running about 400,000 below the 1.3-million level of 1955 and about 200,000 below their 1956 level, so you can multiply by two or four to find out the direct effect of this year's slump.

It's harder to figure the influence of a housing decline on industries that are less directly dependent on the number of new homes—makers of such items as electrical appliances, furniture, carpets. Manufacturers generally have only the vaguest idea of how much of their output goes into new homes, how much into existing homes.

And it's still harder to calculate the effect on the broad economy.

I. Rolling With the Punch

Even in the industries most closely related to the housing business, the real economic effect isn't as automatic as you might think. That's because the

rest of the economy doesn't stand still to await the blow of a housing slump. As housing slides, other sectors of the economy such as capital spending and nonresidential construction may—and do—move upward.

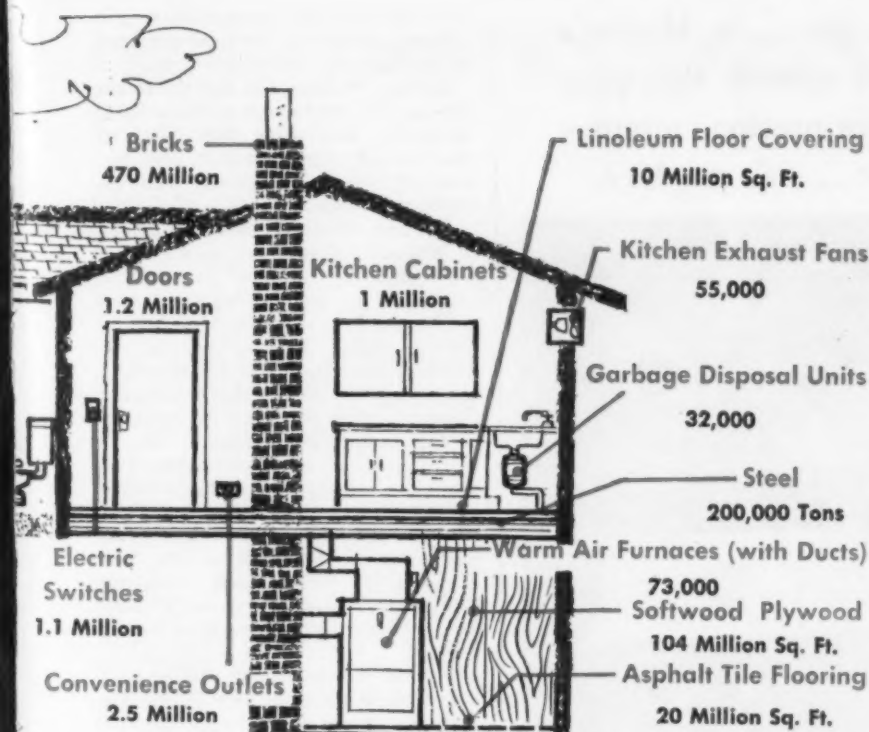
Even industries quite closely tied to homebuilding can make a "rolling readjustment" to a housing slump, as long as they can find comparable business volume elsewhere.

• **Figures Prove It**—Last year housing starts fell 16.5% below their 1955 level—yet none of the related industries showed anything like a 16.5% decline in business.

According to the Housing & Home Finance Agency, output of heating and plumbing equipment dropped 7.8% below the 1955 level; asphalt products, 7.7%; gypsum products, 4.2%; lumber and wood products, 2.8%; paint, varnish, and lacquer, 0.3%. But meanwhile volume of clay construction products increased 3.1%, and portland cement gained 6.6%.

It was much the same with house furnishings. Federal Reserve figures show gains of 0.9% last year for furniture and floor coverings and 4.1% for major appliances.

Despite the 16.5% drop in house starts, the over-all economy, as measured in gross national product, moved about



Data: National Assn. of Home Builders, Bureau of Labor Statistics, Housing & Home Finance Agency.

Means to Industry

24% above the 1955 level, in terms of constant dollars.

Thus, it appears that the era of readjustment for one industry at a time truly dawned last year, even for industries quite closely associated with the industry that was in trouble. But there's more to the story of 1956.

• **Other Cushions**—On a second and deeper look, the related industries shouldn't be expected anyway to show a 16.5% decline for a 16.5% drop in housing starts. For there are other factors that cushion the blow:

• When consumers spend less money on new houses, they tend to spend more on repairing, modernizing, or refurbishing the homes they already have.

• The shortage of money for FHA and VA mortgages concentrates the slump among the smaller and cheaper homes, which use less material. So a given decline in housing starts overstates the decline in demand for the products of related industries.

• There are time lags of a couple of weeks to a couple of years before the products that go into a new house feel the loss of business. During this time, many industries are able to shift their sales pitch, or a change in the business weather may save them from suffering.

Still, all these factors can do is to

delay and limit the ill effects of a housing slump. They certainly don't make such a decline sound like good news for business. And a slump that's persistent enough is bound eventually to break through the resistance.

II. Paying the Piper

That seems to be happening right now. Several businesses that rode comfortably through 1956 are beginning to feel pain, and the longer the housing doldrums continue, the worse other businesses will suffer. For example:

• Lumber shipments in January and February ran 13.1% below the same months of 1956.

• Shipments of gas ranges in the first quarter dropped 12.0% below the same quarter of 1956. Shipments of gas-fired automatic water heaters were down 15%.

• January production of heating apparatus was 21% below year-ago.

• Production of household furniture in January and February was 6.4% below the previous year.

• Production of major appliances in January fell 15.6% below the corresponding month a year ago.

These statistics, of course, cover only a fragment of the year—not enough to make a clear case for 1957 trends. So

BUSINESS WEEK reporters went behind the figures by talking with officials of companies that depend more or less on a housing market.

Industry by industry, the business picture is a confusing blend of good and bad reports. Problems of companies in some lines, such as electrical appliances and glass, are aggravated by factors that have nothing to do with the housing slump, including excessive inventories and stronger foreign competition for the U. S. market.

III. What Companies Say

Here's how industry spokesmen see their business trends:

Lumber and plywood. A big West Coast company says its lumber production in January-February was 5% below the year-before level, and plywood production was down 7.0%. Prices broke to some extent—lumber yielded 8% less revenue than the year earlier, and plywood was off 22%.

This company says demand for heavier lumber for commercial and industrial construction nullified some of the drop in residential demand. Green lumber, going mainly into homebuilding and produced chiefly by small mills, is 18% to 20% below year-ago rates.

A spokesman for Georgia-Pacific Corp. says his company is holding its plywood volume "mostly by channeling as much of our production as possible into specialties for remodeling, repairs, and the do-it-yourself markets." But unit prices in some items are down as much as 20%.

He adds that when housing starts dropped to 1.1-million last year from 1.3-million in 1955, the lumber industry didn't worry a bit. But it is worrying now, he says.

"We are bringing the facts of this decline in housing starts and of its far-reaching effects to the attention of the authorities in Washington," he says, "with a request to use all possible efforts to ease the tight money situation before it's completely out of hand—before housing starts drop so low that it has a very detrimental effect on the whole construction industry."

Glass. The plate glass companies are in trouble, but it's hard to say how much of it comes from the housing slump. For one thing, they are bucking competition from an increasing volume of window glass from Belgium, France, and Germany; for another, with the auto sales slump, their business in automobile glass is lower.

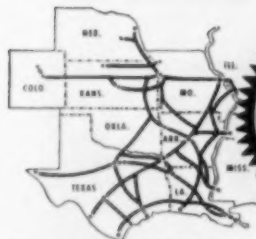
Paint. Major manufacturers are in a confident mood. Glidden Co. points out that the 50-million houses already in existence need an interior paint job on an average of every three years and an outside job almost as often. New construction takes up less than 6% of

The wheels don't go ... in Mo-Pac's new twist on *Truck-Rail* service. Shipping only the trailer body saves precious minutes and dollars. It's Mo-Pac ... it's modern.



Setting the

MODERN PACE in transportation



Route of the EAGLES



P.S.: We also provide regular piggy-back service!



the total residential paint market, so a slide of a couple of hundred thousand in the building rate is no worry.

Sherwin-Williams Co. says the minor drop in sales attributable to the housing slump has been more than offset by do-it-yourself uptrends and by construction of schools, hospitals, factories, stores, and offices.

Gypsum. Melvin H. Baker, chairman of National Gypsum Co., says 65% of his company's business is tied to homebuilding, and first-quarter sales were down 14% in a year. However, he says, prices are holding firm. C. H. Shaver, chairman of U. S. Gypsum Co., agrees that the housing slump is having "an inescapable effect" on his business.

Appliances. This industry has a patchy look, and most manufacturers, as well as observers like the regional Federal Reserve bank officers, are inclined to put heavy blame on the housing slowdown. Especially in the low-priced field, homebuilders often include the major appliances in the package deal—and this field has been hit the hardest.

But not everyone agrees that housing is at fault in the industry's ills. Judson S. Savre, president of Norge Div. of Borg-Warner Corp., for example, says: "Housing starts are important in our planning, but certainly not a major consideration. We refused to become alarmed about this possible minor reduction when personal income and other factors are so rosy."

Furniture and household goods. The National Assn. of Furniture Manufacturers says it hasn't yet seen any effect on sales or prices from the housing decline. There's a two-year lag, Midwest manufacturers say, between the purchase of a home and the buying of furniture for that home. Kroehler Mfg. Co. says it is concerned about the drop in housing but hasn't been materially affected yet.

Sears, Roebuck & Co. has seen no adverse effect on sale of household goods. Montgomery Ward & Co. contends that the housing slump is leading people to "make do" with the houses they have, and thus to spend more money on household goods.

• **No Complacency**—While the effects on related industries vary in kind and in degree, one generality stands clear: Few companies these days retain any complacency about the effects of a prolonged slump in homebuilding.

Of course, the worry is keenest among companies whose products go into the shell or basic operating equipment of a house. And many of these companies, tracing their own troubles partly or wholly to the decline in housing starts, are ready to join the homebuilders and the real estate people in the campaign against tight money, which most blame for the housing decline. **END**



INCREDIBLE TOMORROWS... THROUGH TODAY'S METALLURGY

Toward the useful application of man's newest servants, the electron and the neutron, ASARCO's Central Research Laboratories contributed much. Working with RCA electronic engineers, they have provided metals and elements of incomparable purity for the development of revolutionary electronic heating and cooling systems. Almost without exception, other major producers of electronics equipment use ASARCO's products, facilities or knowledge.

For the Atomic Energy Commission, ASARCO provides copper of such purity that contamination is measured in parts per million. Experimental work with this pure metal has shown great opportunities for increasing the efficiency and reducing the cost of electrical transmission apparatus.

For experimental purposes, and for production quantities as required, ASARCO makes available eleven high-purity non-ferrous metals and elements: Arsenic—Bismuth—Cadmium—Copper—Indium—Lead—Selenium—Silver—Tellurium—Thallium—Zinc. The knowledge of refining that makes these higher purity metals available also serves industry by providing process information to reduce metal-working costs and improve product performance.

If your research people need to know more about any of the non-ferrous metals and their alloys, ASARCO's metallurgists can provide information to save time and preliminary work. And, of course, pure metals and special alloys are available for detailed experimentation.

AMERICAN SMELTING AND REFINING COMPANY

120 Broadway, New York 5, N. Y.





Pittsburgh COLOR DYNAMICS[®] Improves Productive Efficiency in New Blaw-Knox Factory



New painting system relieves eye strain, reduces fatigue and provides greater safety for workers in modern road-paving equipment plant at Mattoon, Illinois.

THE NEW Blaw-Knox plant at Mattoon, Illinois, is another convincing example of the improvement in productive efficiency, safety and morale resulting from the use of Pittsburgh COLOR DYNAMICS.

- This plant is devoted to the manufacture of road-paving equipment—concrete pavers, spreaders, mixers, finishers, bituminous paving machines and road wideners. The 300,000-sq. ft. structure was designed by Sverdrup & Parcell, Inc., St. Louis, Mo., architects, and erected by the George A. Fuller Company of Chicago.

- The interior of this entire plant was painted according to the principles

of COLOR DYNAMICS. The beneficial effects of this painting system are summarized in this comment by A. J. Cox, general manager of the Blaw-Knox Construction Equipment division:

- "We selected colors for interior walls and ceiling to create more cheerful surroundings for our workers. Stationary as well as moving parts of machines were painted in colors that help operators see their jobs better. Eye strain is relieved. Nervous tension and physical fatigue are reduced. Safety colors mark hazard areas and safeguard workers against dangers of time-loss accidents.

- "Our experience since opening the plant confirms our judgment that

properly planned colors are a boon to management and workers alike. They are an aid to greater productivity. The pleasant environment enhances morale. Our entire work force takes pride in our plant's appearance. Work areas are kept clean, simplifying housekeeping. The cheerful and pleasing appearance helps us to recruit new employees in an area where skilled labor has been hard to get. And we enjoy all these benefits at no greater cost than conventional painting."

- This new Blaw-Knox plant is only one of thousands of factories in which productive efficiency has been improved by the use of COLOR DYNAMICS. Try it in your plant—in a department or on a machine or two—and see the difference it makes.

Let us Make a Color Plan of Your Plant—It's FREE!

- We'll be glad to mail you a free copy of our fully-illustrated book on COLOR DYNAMICS for industry. It explains what this painting system is and how to use it. It contains scores of practical suggestions. Better still, we'll be glad to prepare

a comprehensive color plan of your factory, without cost or obligation. Call your nearest Pittsburgh Plate Glass Company branch and arrange to have our representative see you. Or mail coupon at right.



PITTSBURGH PAINTS[®]

PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS • FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

Send for a Copy of this FREE Book

Pittsburgh Plate Glass Co., Paint Div.,
Department BW-57, Pittsburgh 22, Pa.
☐ Please send me a FREE copy of your booklet "COLOR DYNAMICS."
☐ Please have your representative call for a COLOR DYNAMICS survey without obligation on our part.

Name _____
Street _____
City _____ County _____ State _____



INTERNATIONAL OUTLOOK

BUSINESS WEEK

MAY 4, 1957



The Soviet peace offensive is rolling right along—unaffected by the defeat Moscow has suffered in Jordan at U.S. hands (page 44).

This week the Russians injected a disarmament plan into their scheme for peaceful coexistence. The plan, put forward at the London disarmament talks includes a Soviet version of Pres. Eisenhower's open sky proposal.

Washington has its fingers crossed about Moscow's aerial inspection offer. Even so, U.S. officials will probe it carefully, along with other parts of the Soviet plan.

Western capitals believe the Kremlin hopes to achieve at least three things with its peace offensive. It wants to:

- Convince the Russian people that their government is working for peace. This would make it easier for Communist Party boss Khrushchev to push through his scheme for a basic reorganization of the Soviet economy. This plan, which may well involve a reduction in Russian living standards, goes before the Supreme Soviet this weekend.
- Block the supply of tactical atomic weapons to West European forces, especially to the new German army. It might also arouse public opposition in Britain to the upcoming test of Britain's first H-bomb.
- Encourage West Germany's heavy industry to go after markets in the Soviet Union. Representatives of several big Ruhr companies received a royal welcome when they visited Moscow and other Soviet industrial centers recently. The Kremlin apparently hopes the West Germans will forget about unification, concentrate instead on expanding German-Soviet trade.

Under the Soviet aerial inspection scheme, only a small slice of Western Russia would be opened up—in exchange for the opening of almost the whole of Western Europe. Then, in return for inspecting Alaska plus most of the U.S. west of the Mississippi, the Russians are offering to let us inspect an area of Eastern Siberia that is largely wasteland.

U.S. reservations about this kind of exchange are as much political as they are military.

From the military angle, Washington assumes that the Russians already know almost as much as they could learn from aerial inspection. So, we might actually make a net gain in trading information under the Russian plan.

From the political side, the objections are real. The Administration expects plenty of trouble in selling Congress on any aerial inspection of the U.S., if and when an agreement is reached. Unless we were getting a fair swap, Congress might kill the whole scheme—and greatly embarrass the U.S. The world wouldn't forget that aerial inspection originally was proposed by Pres. Eisenhower.

At midweek, Washington still was hopeful that some limited agreement could be reached in London on arms control.

The Soviet aerial inspection plan is open to negotiation. The gap between Western and Soviet proposals on conventional arms limitations has narrowed considerably.

INTERNATIONAL OUTLOOK (Continued)

BUSINESS WEEK

MAY 4, 1957

The question now is whether the Russians insist on getting agreement on their total arms control package—on a take-it-or-leave-it basis. If they do, the talks are doomed.

The Administration's new foreign aid program (BW—Apr. 13 '57, p149) will get its first real test at the White House early next week. Pres. Eisenhower is calling in Congressional leaders for a discussion of aid.

The meeting is meant to smooth the way for his aid message, which is to go to Congress around May 15. (The Senate Foreign Relations Committee will start its hearings around May 20.)

Despite the new look being given to the program, the aid fight is sure to be nip and tuck. In addition to the normal opposition to foreign aid, a number of liberal Democrats may oppose it. These Democrats favor the Administration's new approach, but they would like to put off a reform until next year, just before elections. Then they could claim the credit for themselves.

The White House will try to meet this type of opposition by playing down the partisan aspects of the new program. And it will credit the Senate Foreign Relations Committee with having suggested important elements of the new approach.

One phase of the foreign surplus disposal program has been suspended, pending a government policy review. It's part of the program that provides for bartering surplus farm products for strategic materials. (Roughly \$1-billion worth of strategic materials have been acquired for U. S. stockpiles this way.)

Behind the suspension move is a strong feeling in the Administration that surplus agricultural products bartered abroad have been displacing normal commercial sales of U. S. farm goods.

Here's the story: Barter deals, unlike sales for foreign currencies, are handled through private brokers. Some brokers apparently have succeeded in selling surpluses abroad for dollars—thus killing normal dollar sales of farm products. Then they have used the dollars to buy strategic materials domestically for the stockpiles.

The program, whether or not such practices can be stopped, is sure to be resumed. Farm pressure to move surpluses abroad is one thing Washington can't resist for long.

In Brazil—at this week's opening of American & Foreign Power's Peixotos power project—Pres. Kubitschek came out in a big way for foreign private capital. The words sounded good to AFP's top brass attending—and Kubitschek needed courage to say them, in the face of the firebrand nationalism of the opposition.

But observers note that Kubitschek's nice statements were little more than that. The Brazilian president waited to open Peixotos—which began operating on a small scale late last year—until he had announced three government-sponsored power projects Tres Marias, Furnas, and Paulo Afonso. Even now, the government is giving these projects priority. It is holding back completion of privately built Peixotos—as well as another American and Foreign Power project.

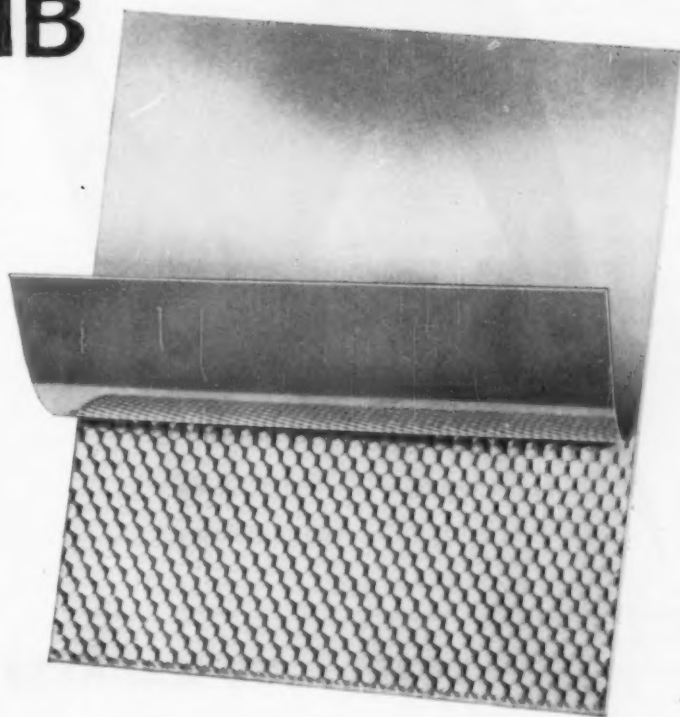
IT WOULD TAKE A PIECE OF ALUMINUM WEIGHING 10 POUNDS OR A PIECE OF STEEL WEIGHING 16 POUNDS TO EQUAL THE RIGID STRENGTH OF 1 POUND OF STRUCTURAL SANDWICH MADE WITH **HEXCEL ALUMINUM HONEYCOMB**

And this amazing strength-to-weight ratio is only one reason why "sandwiches" of Hexcel honeycomb cores with lightweight steel or aluminum facings are the structural materials of the future.

Hexcel honeycomb sandwiches also give protection against heat, and vibration, and possess excellent acoustical qualities.

Hexcel Products Inc. originally developed its honeycomb cores for the American aviation industry. Today, however, the uses have multiplied to include curtain wall construction for buildings, and Honeylite® (aluminum honeycomb without facings), the newest name in lighting. Honeylite® ceilings or fixtures produce soft, glare-free light with nearly perfect efficiency.

Backed by continuous research, testing, and engineering sales-service, Hexcel honeycomb cores are giving more and more manufacturers and builders the closest thing to a perfect structural material.



HEXCEL® PRODUCTS INC.

*For a world of things made
lighter and stronger than ever before*

HEXCEL PRODUCTS INC.
951 - 61st Street, Oakland 8, California
*Please send me your free illustrated book telling
how many leading industries benefit from
Hexcel Honeycomb.*

Name	Title
Company	
Address	
City	State



■ In all Europe, the only structure taller than Switzerland's new Grande Dixence Dam is the Eiffel Tower—and that by a bare fifty feet. The melting snows and glaciers of the Matterhorn and Jungfrau will help fill its 300 square mile reservoir. Harnessed by a nearly mile-long penstock made of a special Lukens alloy steel, this captive Alpine sea will deliver 1.4 billion kilowatt-hours.

Engineers who planned this, the world's tallest dam, sought a steel that was easily fabricated, light, yet of immense strength. Lukens "T-1" steel filled their needs completely—and Lukens added a wealth of specialized knowledge to aid in its proper application.

Fabricators have long been teaming up with Lukens. As long as a century before America's own giant, Hoover Dam, was completed in 1936.

LUKENS STEEL COMPANY, COATESVILLE, PA.
*World's Leading Producer of Specialty Carbon, Alloy, Armor
 and Clad Steel Plate • Heads • Plate Shapes • For Qualified
 Equipment Builders*

STEEL...TO HARNESS A NEW ALPINE GIANT



In Washington

• • •

Government and Airline Industry Hatch Systems to Police Traffic in the Sky

A White House group, working under Pres. Eisenhower's aviation adviser Edward P. Curtis, has completed the design of a radically new system of air traffic control—a project given new urgency by last summer's tragic collision of two airliners over the Grand Canyon.

The program is aimed at increasing the capacity of airways tenfold while reducing the hazards of collision. It calls for lateral separation of aircraft according to speed and for positive control of all traffic operating above 18,000 ft. Planners hope to launch the system by 1960, have it complete by 1975.

Meanwhile, the Air Transport Assn. and the Air Line Pilots Assn. say they are working on a voluntary arrangement, under which strict instrument flight rules would apply to all airline flights in the Chicago-New York-Washington triangle except when under 9,500 ft.

• • •

Kefauver Subcommittee Delays Issue Of Opus on Industrial Concentration

The public will have to wait another two weeks for the Senate Antitrust & Monopoly Subcommittee's monumental report on concentration in industry—originally set for May 1 publication.

In final form, the report may contain as many as 1,000 pages. It will consist almost entirely of listings to show numbers of producers by products and industries, all in unprecedented detail. Sen. Estes Kefauver (D-Tenn.), chairman of the subcommittee, may launch the report in a public hearing, hold special sessions later on particular industries and administered pricing.

• • •

IRS to Plug Depreciation Loophole Enjoyed by Radio and TV Stations

The Internal Revenue Service is about to hike the tax bills of some radio and television broadcasters. It will soon rule that broadcasters may not depreciate the asset value of network affiliation contracts to gain an income tax benefit—as IRS field agents have been letting them do in the past.

Washington has apparently never taken a formal position on the point before. Now officials have decided a network affiliation cannot be depreciated because it has no fixed, useful life. Tangible property—such as plant and equipment—and certain types of intangible property—such as limited franchises, patents, and copyrights—can be depreciated because their life can be calculated.

In theory, the life of network affiliation contracts is

limited to two years by Federal Communications Commission rule. But in practice, IRS will contend, the contracts go on indefinitely under renewal clauses and so don't qualify as 6-ton deals.

IRS reached the decision in considering a tax claim by Westinghouse Broadcasting Co., which is seeking a five-year depreciation allowance on the NBC network affiliation of WPTZ-TV, Philadelphia, purchased in 1953 for \$8.5-million. Westinghouse valued the affiliation at \$5-million.

The Westinghouse claim will probably lead to the first court test of the new ruling. If IRS is upheld, industry sources fear a drop in the sales price of network-affiliated TV stations—and a sharp change in profit positions of broadcasters who bought such stations, expecting tax benefits.

• • •

Humphrey Dissents Again—This Time Over Future of Fast Tax Write-Offs

Treasury Secy. George Humphrey has split with Gordon Gray, new defense mobilizer, over the future of fast tax write-offs.

Humphrey, powerful and long-time foe of these benefits, has plumped for a bill sponsored by Sen. Harry Byrd (D-Va.). This would limit use of fast amortization to military suppliers and companies engaged in technical research and development chores for the military.

Gray opposes the Byrd bill on two grounds:

- It's unnecessary because current policy limits fast write-offs to companies producing items needed for "a minimum mobilization base."
- It would restrict ODM's hand in determining who should and shouldn't get the tax benefits.

Meantime, the Idaho Power Co. last week won 60% and 65% accelerated write-offs on two dams under construction in Hells Canyon of the Snake River. If Byrd's bill had been in effect, the company would have been ineligible.

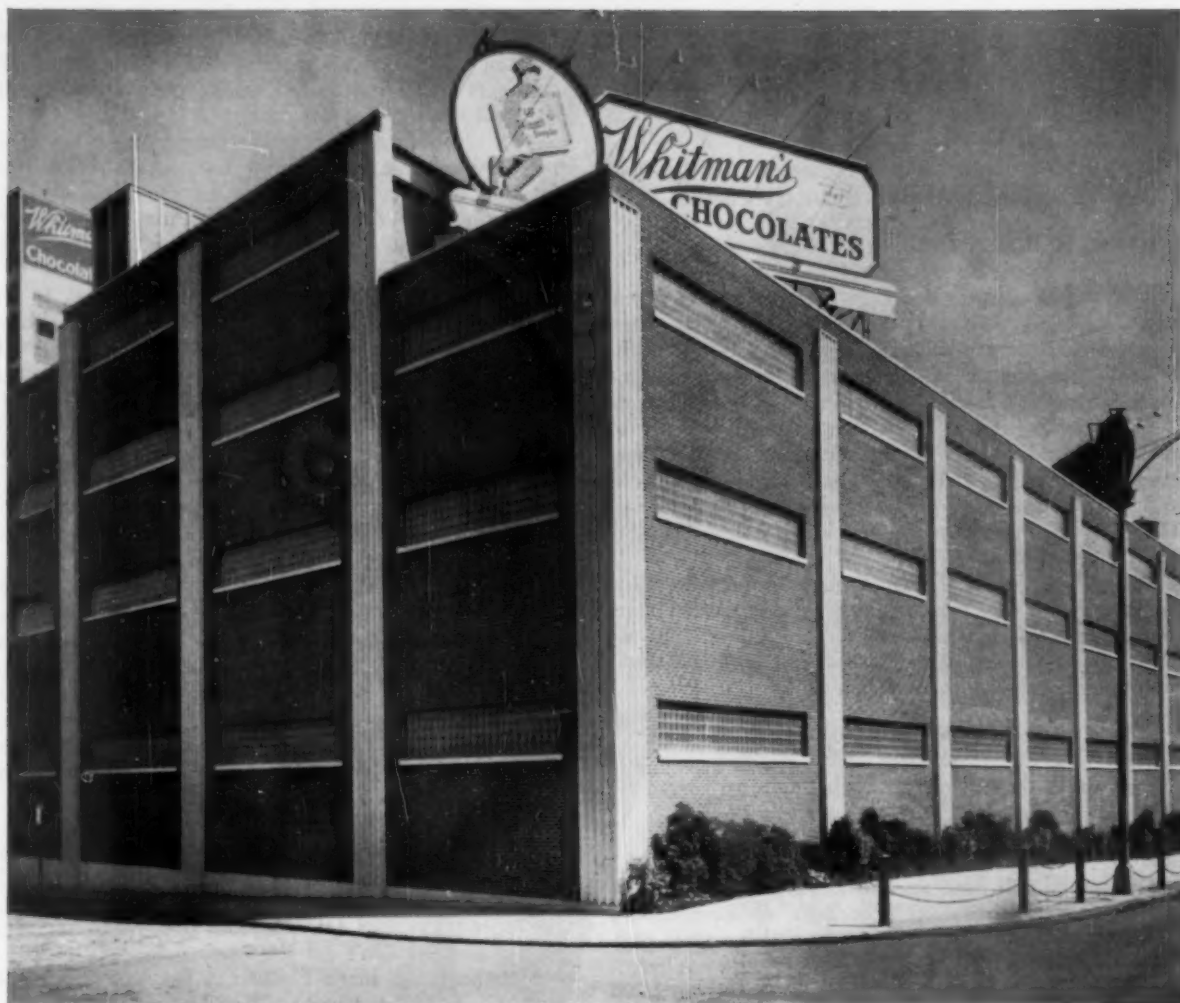
• • •

FCC Tests of Toll TV Stymied By Opposition From Congress

The Federal Communications Commission plan for early testing of toll television (BW—Apr. 13 '57, p. 76) may be stalled indefinitely, it now appears. The chief trouble comes from two House Democrats—Chmn. Oren Harris of the Interstate & Foreign Commerce Committee and Chmn. Emanuel Celler of the Judiciary Committee.

Harris used constitutional grounds to warn the FCC that, in effect, it should have a specific Congressional blessing before taking any action—even allowing tests. And Celler noted that he has legislation pending to forbid broadcasting toll TV into the home. As a result, FCC decided to drag its heels on the proposed tests at least until it can confer with Harris, in whose committee the Celler bill now reposes.

Pay TV suffered another blow when the AFL-CIO went on record against it as damaging to the "public interest" and to fullest public use of TV.



Insulation value of PC Glass Blocks helps solve Whitman's temperature control problems

Ten years ago, when Stephen F. Whitman and Son, Inc., famous candy manufacturer, built this packaging plant in Philadelphia, they decided to use PC Glass Block panels instead of ordinary windows. Two important benefits of glass block panels prompted their decision—high insulation value and air-tight construction.

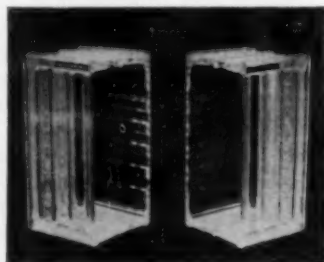
Since installation, the panels have successfully contributed to the strict temperature control so vital to candy packaging. Because the panels have high insulating efficiency, and completely eliminate drafts and air leaks, temperature fluctuations that used to cause

discoloration and fingerprinting of chocolate coatings have been prevented.

The Company reports additional advantages, too. The glass block panels bring soft daylight into the working area. Window maintenance is no longer a costly problem. And the clean, neat panels contribute to an attractive exterior that has kept its "just-built" look.

For details on PC Glass Block benefits, write, or see us in Sweet's. Pittsburgh Corning Corporation, Dept. G-57, One Gateway Center, Pittsburgh 22, Pa. In Canada: 57 Bloor St. W., Toronto, Ontario.

Cut-away view shows reasons for high insulation efficiency of PC Glass Blocks. Hollow, sealed-glass construction holds dried air at a partial vacuum. This "dead air" space gives glass blocks insulation value of an 8" thick masonry wall.



PC Glass Blocks



Also manufacturers of FOAMGLAS® insulation

Timetable for Labor Reform

● For the present, White House wants legislation to correct welfare and pension fund abuses—and nothing else.

● Later on, after careful preparation, Eisenhower wants Mitchell to draft and promote a broad package that would cover many union activities now outside Taft-Hartley.

● Question is: Can Administration hold back Congress from consideration of other reforms at this session?

If the Eisenhower Administration has its way, there will be no broad new labor laws this year—just stop-gap legislation aimed at correcting welfare and pension fund abuses.

The White House strategy is to move ahead slowly, to give the public furor over revelations of labor racketeering and corruption time to quiet down. Until it does, the Administration plans to press only for the passage of legislation already introduced, providing for a federal check on welfare and pension funds. All else will wait.

• **Long-Run Possibilities**—In the long run, this could lead to an Eisenhower-backed legislative package covering a range of union activities now outside the Taft-Hartley Act. It's too early to know what would be included—but ideas being mulled in official circles include proposals that would open labor's private financial records to the public, regulate union elections, further limit the use of money from dues, and otherwise bolster democratic practices.

The question is: Will Congress wait until Labor Secy. James P. Mitchell, acting for the Administration, gives the word on such a program? Congress is now clamoring for new restrictive legislation. Emphasis is already shifting from investigating abuses in labor to taking legislative action against the evils already uncovered. Senate and House labor committees will open hearings on proposed measures later this month.

For the most part, these proposals lack coordinated sponsorship and form. Lawmakers have different ideas about what should be done. Even motives may differ.

• **Side Maneuver**—Just this week, Sen. John L. McClellan (D-Ark.), chairman of the Senate Select Committee probing labor racketeering, called for an amendment to the controversial civil rights bill that would outlaw union-shop agreements. He suggested this as a move to relieve some of the problems arising from big unionism.

McClellan's state, Arkansas, was the first to adopt a "right-to-work" law barring compulsory unionism. The senator's proposal would—if it became law—accomplish the same thing nationally. However, the general belief on Capitol Hill is that McClellan is more interested in killing off the civil rights bill with a rider that labor and Northern liberals are certain to find unacceptable.

• **Go-Slow Approach**—This is just one example of the kind of problem the Administration fears if there is hurried, piecemeal legislating. The go-slow approach it has adopted and placed under Mitchell's guidance is intended to avoid the pitfalls of haste. It is intended to:

- Give the government's legal experts more time to study present and proposed laws as they would apply to racketeering activities in labor-management relations.

- Give organized labor, through the AFL-CIO, time to test its own clean-up and self-policing processes.

- Avoid (1) scatter-shot legislation that could disorganize constructive bargaining relationships; (2) purely punitive measures aimed at all of organized labor without being directed at the crimes at hand; and (3) hasty lawmaking that might not plug all the holes that racketeers and corrupt laborites have found in present labor laws.

• **The Coordinator**—The President and Mitchell agreed last week in Augusta, Ga., that such a deliberate approach to a legislative program is necessary. Eisenhower gave his Labor Secretary broad powers as a coordinator charged with putting together and promoting on Capitol Hill a sound legislative "package"—when it can be done.

The centralized authority given Mitchell—apparently broader than he has ever had before—could, in time, bring more concerted Administration moves in Congress. At the same time, it obviously means no major Administration efforts this session, except those for passage of a welfare fund control

bill such as that advocated by the President since 1954.

When the time comes for Administration testimony at Congressional labor committee hearings this month, Mitchell is expected to limit his recommendations to a health-and-welfare fund bill—probably without making any pointed distinction between the two now pending before Congress.

One is the Administration bill, sponsored by Sen. Irving Ives (R-N.Y.), which provides for registration of employee welfare funds and annual reports to the Secretary of Labor on the funds.

The other is a Democratic bill, sponsored by Sen. Paul Douglas of Illinois, which would require more detailed data and a stricter accounting of funds, and which would make them subject to control by the Securities & Exchange Commission.

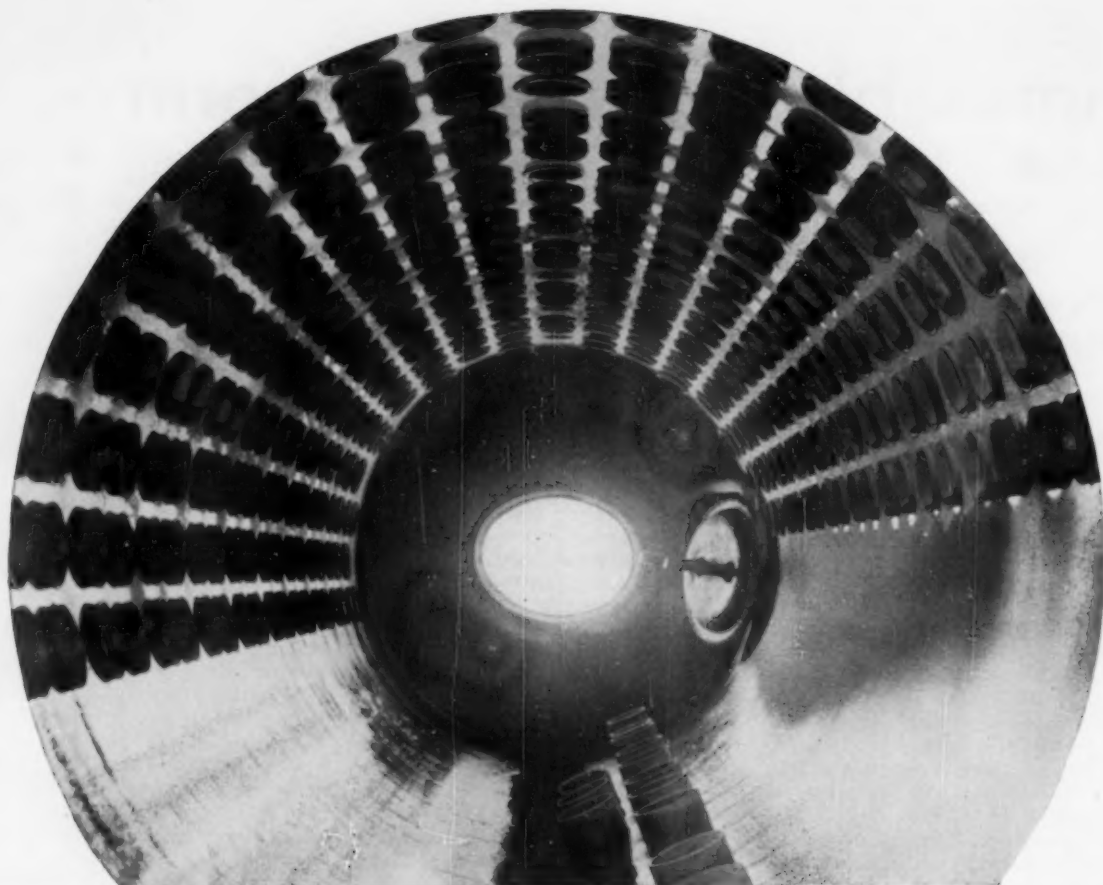
AFL-CIO favors the Douglas measure. Industry groups—including the National Assn. of Manufacturers—oppose any public disclosure of employer-controlled funds. NAM argues that labor would gain a new bargaining weapon if management is required to reveal fund and investment details.

• **Open Floodgate**—It won't be easy to bring up either one of these bills without opening the way to other proposals prompted by the Senate hearings. Sen. John F. Kennedy (D-Mass.), who will run the Upper chamber's hearings on remedial labor legislation, has already cited several issues he'd like to consider—mostly matters Mitchell and the Administration would like to hold back.

Once the hearings are opened up beyond welfare fund legislation, a wide range of proposals may be forthcoming—for the applications of antitrust laws to labor, further tightening up on union political activities, abolition of industry-wide or multi-plant bargaining, and a federal "right-to-work" law, among other things.

Legislation of this nature is supported by NAM, the Chamber of Commerce of the U.S., and other industry groups—and has some Congressional support. However, Mitchell has objected to most of this program and believes that, given sufficient time for reflection, Congress will reject it.

While the Administration probably lacks the power to hold Congress in checkrein—to assure a gradual approach to new labor legislation—time may be on the White House's side. If hearings broaden out from the welfare fund issue, they could just be getting down to business when Congress recesses. **END**



NOBODY WAS SURPRISED

When this mud drum was opened for inspection, it looked just as everyone expected it would—clean as a whistle, completely free of sludge and scale—after nine months of treatment with Dearborn Formula 659. That's product dependability.

Formula 659 contains a patented* Dearborn Polyamide Anti-Foam that provides protection throughout the entire water-steam cycle. In addition to improving steam quality, Formula 659 also conditions sludge, reduces blowdown requirements, and controls corrosion.

Compatible with other water treating reagents, Formula 659 is a neutral product which imparts no alkalinity to boiler water—nor will it increase carbon dioxide content of steam.

Formula 659 will mean important savings in your plant—see your Dearborn Engineer.

*U.S. Pat. No. RE-23085

Dearborn®

...a leader in water conditioning and
corrosion control for 70 years

HOW FORMULA 659 WORKS

FORMULA 659 improves steam quality by reducing carry-over to a minimum.

FORMULA 659 keeps sludge in a fluid, non-adherent form.

FORMULA 659 permits higher boiler water concentrations, thus reducing blowdown.

FORMULA 659 helps protect against corrosion in the water-steam cycle.

USE THE COUPON

Dearborn Chemical Company, Dept. BW
Merchandise Mart Plaza, Chicago 54, Ill.

☐ Send complete details on Dearborn Formula 659.

Name.....Title.....

Company.....

Address.....

City.....Zone.....State.....



LIAISON between the lunch pail crowd and the bite-at-the-club brass, the foreman belongs to neither group.

Foremen Warm Up to Union

Middlemen in a tussle between labor and management, supervisors show more signs of throwing their support to the unions.

Chief reason is that management hasn't developed enough training programs or other techniques to win the loyalty of younger foremen.

In the tug of war for the loyalty of the foreman, management may be losing ground. Caught in the middle, the foreman on the one hand has to carry out management's policies in which he often has no voice, while at the same time he has to hold the cooperation of the production union. To a certain extent both groups reject him, since—by their books—he is neither fish nor flesh.

A survey just released by Opinion Research Corp. points up the dissatisfaction of foremen with their ambiguous status. And a BUSINESS WEEK survey leads to the conclusion that industry still hasn't developed the most effective techniques for making supervisors "management men."

• **Drop in Morale**—In a broad survey covering over 500 companies—large and small—in 59 industries, ORC pollsters talked to 911 foremen and supervisors. Their findings sound a clear warning to

employers. The survey, the first since 1954, shows a definite drop in foreman morale. For example:

- Only 63% of the foremen interviewed think that management-foremen relations in their companies are very good—compared with 73% in 1950 and 70% in 1954.

- Only 65% identify themselves with management, compared with 69% in 1950.

- For employers, probably the most ominous finding is that 34% of the foremen polled believe it's all right to have a foreman's union—the highest ratio ORC has spotted since the immediate postwar period. Only 4% of those interviewed belong to a foreman's union but another 9% would like to.

- **Heavy Going**—The threat of unionized foremen has been looming on management's horizon since 1941, when the Foreman's Assn. of America started at Ford Motor Co. FAA spread into

other Detroit auto plants, and John L. Lewis' United Mine Workers drove hard for supervisors in coal mines.

The Wagner Act was not specific about foremen. At first, the National Labor Relations Board ruled that they were guaranteed the rights provided by the act. Then, after a series of NLRB reversals and re-reversals, the U.S. Supreme Court in 1947 upheld the board's contention that foremen were covered by the Wagner Act.

But the reprieve for the foremen's unions came too late. Only a few months later, the Taft-Hartley Act was passed, guaranteeing to employees the right to bargain collectively, but excluding supervisors from its definition of "employees." This means that foremen can form unions, but employers don't have to deal with them.

- **Management's Strength**—ORC's survey shows that in the matter of foreman loyalty, management's strength lies mostly in the old-timers, particularly those who have had systematic training to prepare them for their supervisory roles. Of the low-seniority supervisors polled, only about 45% believe that they are part of management, while 58% do not agree that foremen should stay out of unions. The conclusion is

DENISON HYDRAULIC POWER works for every industry



The roof goes up with an assist from Denison hydraulic pump/motors in this illustration of lift-slab construction.

Power for Raising the Roof

How Denison pump/motors smooth the operation of the lift-slab construction method

Proved by hundreds of successful jobs since its introduction in 1950, the lift-slab method today is an accepted standard for lowering costs and speeding completion of multi-story buildings.

Hydraulic power by Denison has played a leading role in this important industrial development.

Lift-slab is a technique whereby concrete floors and roofs are poured and cured individually at ground level, then raised at the rate of 4 feet per hour by a series of hydraulically-powered jacks

or screws to the desired height. The advantages: greater freedom of design, most effective use of labor force, faster completion.

In each jack, a Denison vane-type hydraulic pump/motor furnishes constant, accurately controlled torque to follow up the lifting action of the jacks. With dependable hydraulic power, the operation is, for all practical purposes, foolproof.

Whether you manufacture a product, or operate any type of equipment, Denison hydraulic power can help you speed production . . . lower costs. Write Denison Engineering Division, American Brake Shoe Co., 1178 Dublin Road, Columbus 16, Ohio.

HYDRAULIC PRESSES • PUMPS • MOTORS • CONTROLS





THREE PEOPLE in one, today's foreman has to run his own line, deal with other departments, and handle personnel details.

that foremen are most susceptible to unionization during their first years on the job.

The survey findings also spotlight the fact that new foremen are often ill-equipped to handle their jobs, and that only one-third of the foremen appointed within the last two years have had any real training for their new jobs.

• **Remedy**—When a company wants to offset these factors, it usually sets up some form of special training program. But that raises all sorts of questions. How much does it cost to turn an hourly-rated worker into a functioning supervisor? How much time should a supervisory training program take? Should it be flexible, or should the routine be fairly set?

BUSINESS WEEK reporters sampled the training programs of a dozen companies, and found that they vary from long, formalized training courses to short, casual preparation sessions. Despite the range, training experts in the companies interviewed agree on one thing: The day is gone forever when you can tap a worker on the shoulder at quitting time Friday and say, "By the way, Fred, better wear a shirt and tie to work Monday. You're going to pike over department 37B."

As Dr. Philip Ash of Inland Steel Co.'s industrial relations section puts it, "You can't take a skilled worker, give him supervisory responsibilities and

expect he'll wind up right side up without further training or guidance. Those are things you learn, and are not born with."

• **Foremen's Woes**—One reason is that manufacturing processes in many industries have become increasingly complex, and the intricacies of the foreman's job have grown apace. Unions, too, which have caused management concern about personnel relations and employee communications have complicated the picture. Today's foreman not only has to be familiar with the mechanical operation of his department, he must also serve as an extension of the company's personnel office—hearing grievances, settling disputes, and handling a myriad of personal problems as well.

A group of human relations researchers at Yale have pointed up some of the problems that dog the foreman. In *The Foreman on the Assembly Line* (Harvard University Press), the researchers list the detail in a typical day in the life of a foreman on an automobile body assembly line. After figuratively following the fellow around for a day, you conclude that he should be at least three separate people: One to keep his line running smoothly by jumping in to help out when needed; one to deal with other departments and keep supplies flowing; and one to handle personnel details such as paying the men,

setting up vacation schedules, replacing absentees.

• **In a Spot**—The foreman's union is keenly aware of the problems of the front-line supervisor. Carl Brown, executive director of the Foreman's Assn. of America, emphasizes the insecurity that comes from the foreman's ambiguous position. "They're in the same spot today that the production worker was in 20 years ago. They lose seniority rights when they become a supervisor in many cases, can be fired point-blank, and then are on the street or have to start again as hourly-rated without seniority."

Then, too, there are two forces working at cross purposes on the foreman. As industrial psychologist Ross Stagner of the University of Illinois shows in his book, *The Psychology of Industrial Conflict* (John Wiley & Sons), the foreman—the "marginal man"—is pulled backwards through identification with the group from which he has come (the workers), and pulled ahead by a desire to become accepted by the group he has joined (management).

• **Cost Factor**—It's generally agreed that careful preparation and training can go a long way toward offsetting the foreman's early qualms about separating himself from his old union—and its benefits—and allying himself with a group that in many cases he



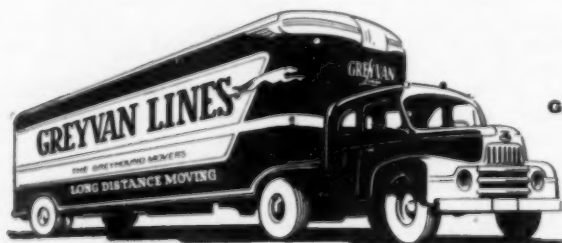
It's somebody you know...

MAYBE YOU have never done business with Greyvan long-distance movers. But you do know Greyhound. You know the *policies* that made Greyhound famous:

- Careful, courteous drivers
- Clean, modern equipment
- On-time service
- Scrupulous fairness in all dealings

GREYVAN operates on the same principles. We try to be less concerned with *how much* we do than with *how well* we do it. That's why, on *any* long-distance moving job, large or small, more and more Traffic Managers recommend:

- "Give it to GREYVAN, to be SURE!"



GREYVAN LINES INCORPORATED

General Office: 57 West Grand Avenue, Chicago 10



THE GREYHOUND MOVERS

LONG-DISTANCE MOVING AND STORAGE

has regarded with some degree of hostility.

The question is: Are current programs doing the job, and are they justifying their cost? Tentatively, the answer is yes. But training directors are constantly rejiggering, never quite satisfied with results.

So far as training costs go, most companies refuse even to estimate the figure. Many say they don't want to know the cost. "If we did, it might take some of the steam out of our program," says a West Coast management services director. Only a few of the companies interviewed ventured a guess. Inland Steel thinks its training program ranges from \$2,500 to \$4,000 per foreman—probably closer to \$2,500. Aluminum Co. of America spent about \$36,000 to send 16 foremen to a 13-week refresher course.

• **The Key**—Most of the companies agree, however, that—regardless of its cost—the real key to any successful supervisory training program is the proper selection of trainees. Of the companies interviewed, all said it does no good to indoctrinate and groom a man if he is unsuited temperamentally, mentally, or in other ways.

Generally, a company tries to bypass such mistakes by a careful pre-screening of likely candidates. Most methods of selection break down into two main types: (1) continuous sifting of likely candidates, and (2) special sorting to fill specific openings. Some companies combine both types in their programs.

Usually, foremen are asked to keep an eye open for likely supervisory material. When a man's name comes to the attention of management, he's called in, told he looks like managerial timber, and asked to take aptitude, personality, and other tests. After that, there's a series of conferences with personnel people, higher supervisors, production brass, and others. The final choice usually rests with the line organization—departmental superintendents, plant managers, and the like.

• **Typical Programs**—Once candidates for foremanship have been chosen, their training program begins. Here are four different methods used by the companies **BUSINESS WEEK** interviewed:

• **Pre-supervisory training**: Under this method—used among others by Inland Steel, Kaiser Aluminum & Chemical Corp., and General Motors—workers get a full-course training in what to expect when they become foremen. Then they are placed in a status somewhere between foreman and worker. At GM and Kaiser, they're placed on salary and put in a "foremen pool" from which they move around to fill in temporary vacancies. Inland's "spell turn" moves foremen from vacancy to vacancy during their instruction.

• **Supervisory training with almost full time spent in instruction**: Typical is Alcoa's program, where workers attend classes and conferences, as well as on-the-job work, eight hours a day, five days a week, for two months.

• **Combination on-the-job training with outside instruction**: This is how Boeing Airplane Co. tackles the problem. Candidates taking Boeing's pre-supervisory training course get 36 weeks of instruction—three hours a week in class, two hours homework—on their own time. After a worker graduates into a foreman, he gets 14 to 15 days of special instruction over a four-month period.

• **Informal training with no fixed-time period**. Kearney & Trecker Corp. of Milwaukee uses this procedure. Potential foremen are rotated from department to department, not according to any particular schedule and for no fixed length of time.

A number of companies use combinations of these plans. Goodyear Rubber

Co., for example, uses a whole year, splitting the time between job rotation and classroom instruction.

• **How Long?**—Estimates vary on how long it takes to make a worker into a smoothly functioning foreman. A spokesman for a large Southern textile mill says, "You can bring a man along for one, two, or three years, and during that time his thinking is adjusted prior to actually becoming a supervisor. Once he gets the job—depending on the individual—it takes six to 12 months to complete the adjustment." W. A. Borrie, of Kaiser Aluminum, likes to think his company can make a satisfactory first-line foreman in a year. Kearney & Trecker, on the other hand, doubts that it's possible inside of six years.

In general, these training programs seem to be doing a job of lining up foremen with management, though many experts feel that the one best way of training foremen hasn't yet been devised.

NLRB Lends Ear to "Orphan" Disputes

Labor Relations Board may step in, if Congress doesn't give states more jurisdiction in interstate cases.

Small employers and their workers, who now have no place to go with disputes over unfair labor practices and bargaining agency elections, may get some help from the National Labor Relations Board.

Boyd Leedom, NLRB chairman, said this week that their problem is the biggest now confronting the board. If Congress doesn't do something about it—by ceding more jurisdiction over labor disputes to the states—the board intends to do what it can to alleviate the problem.

For many years, NLRB operated without precise standards for taking jurisdiction over cases; it handed down ad hoc decisions on how much impact upon interstate commerce must be proved before the board could—or would—exercise its statutory jurisdiction.

• **Yardstick**—In 1950, NLRB set up its first de minimis standards for determining whether the board would take jurisdiction over cases. These were revised in 1954, reducing the areas in which the board would function.

Under these rules, NLRB will not take jurisdiction in a case involving a manufacturing plant unless it receives across state lines commodities with an annual value of \$500,000, if shipped directly, or \$1-million otherwise. Shipments out of the state must total \$50,000 directly, \$100,000 if handled indirectly. Retail stores that have no out-of-state sales or shipments must buy at least \$1-million worth of goods across

state lines before NLRB will act.

• **No-Man's Land**—The U.S. Supreme Court recently ruled that state courts and state laws cannot take over in labor-management disputes when NLRB refuses to act under its regulations in such cases covered by the Taft-Hartley Act (BW-Mar.30'57,p161). Since then, courts in Illinois, Pennsylvania, and California have ruled against state jurisdiction over cases over which NLRB has but declines to take jurisdiction.

Admittedly, this leaves small employers and their workers in a sort of "no-man's land" in labor disputes, Leedom said after a conference with regional staff people.

"In the wake of the Supreme Court's decisions . . . I suppose that the board's role will now be more difficult than ever," Leedom said. Small businessmen complain that they aren't protected from the "organizational tactics of unions"; unions allege "improper conduct on the part of employers" who do not come under the board's de minimis regulations.

AFL-CIO's Legislative Dept. held a conference of attorneys of all international unions in Washington this week to draft recommendations. Meanwhile, labor boards of New York, Wisconsin, Connecticut, Michigan, Pennsylvania, and Puerto Rico last week agreed on a joint petition to Congress to broaden the states' now-limited jurisdiction over labor disputes. **END**

More Power to You ^{and for you} in CIPS Towns*

**Industrial Sales
In CIPS Area Up
Again In 1956**

SPRINGFIELD, Ill. —Increased industrial activity in the Central Illinois Public Service Co. service area is evidenced in the utility's 1956 annual report which has been mailed to stockholders. Sales to large light and power customers...

**CIPS Continues
Expansion; To Spend
\$22 Million In 1957**

Central Illinois Public Service Co. will spend \$22 million in 1957 to expand its electric and gas facilities in central and southern Illinois, according to an announcement by M. S. Luthring...

**200,000 Kilowatt
Generator Scheduled
At Meredosia Station**

Central Illinois Public Service Co. announced today that installation will begin early in 1958 of a new 200,000 kilowatt generating unit at the company's Meredosia power station in northwest Morgan County. The unit, which will be CIPS'...



Industry thrives best where it's wanted most.

People in CIPStowns want industry . . . and they know industry must prosper if they are to prosper, too. Enthusiastic business and civic leaders in the friendly, cooperative communities we serve are ready to provide convincing evidence why a CIPStown location can be profitable for you.

Join the many diversified industries who already are enjoying the PLUS advantages found in CIPStowns, Illinois. For dramatic proof of the growing industrial activity in our service area consider this fact: **sales of electricity to large light and power customers have almost tripled in the past nine years!**

A multi-million dollar expansion program is now under way as CIPS continues to build ahead to provide for the expanding use of electricity in homes, business and industries. Generating capacity of the three large CIPS power stations will be boosted 65 per cent by mid-1960. More transmission and distribution facilities are being constructed to be sure an adequate, dependable supply of electric power will always be available when it is wanted. . . and where it is wanted.

CIPStown people join us in saying "More power to you . . . and for you" in this rapidly progressing area. Come, see for yourself.

*The more than 500 central and southern Illinois communities served by Central Illinois Public Service Company. Our Industrial Department . . . in cooperation with local agencies . . . can help you find the CIPStown that fits your needs.



CIPS

CENTRAL ILLINOIS PUBLIC SERVICE COMPANY

General Offices: . . . ILLINOIS BUILDING . . . SPRINGFIELD, ILLINOIS

In Labor

• • •

Evanston Bars Picketing of Companies That Are at Peace With Employees

The city council of Evanston, Ill., last week adopted an ordinance that bars picketing when no labor dispute exists between an employer and his employees. Unions immediately announced that it will be fought in court as a law "extremely harmful to labor."

Six months ago, the Palm Springs (Calif.) council enacted a municipal "right to work" law (BW—Nov. 24 '56, p. 78). Many employers saw in it precedent for local steps to tighten labor laws. Shortly afterward, the Evanston Chamber of Commerce called for city action to curb picketing. It cited picket line troubles at a laundry and metal shop.

Although hotly contested, and several times blocked, the Evanston ordinance passed last week. It bars picketing unless the union has been approved by a majority of a company's employees in a state-conducted election. The ordinance also curbs picketing in "legitimate" disputes by outlawing union efforts to:

- Stop deliveries to or from picketed premises.
- Follow delivery vehicles or the employees of a struck company.
- Interfere with the free access of customers or employees to the picketed premises.

The council passed the ordinance over a warning that there is "doubt that state statutes give cities power to enact this type of legislation."

Meanwhile, the precedent Palm Springs "right to work" ordinance has received a court setback. A Superior Court decision noted that union-shop contracts are legal under California law and refused to uphold the right of a city to "prevent that which the federal and state law says is lawful"—that is, the union shop. The decision is being appealed.

• • •

Pilots Group Hits Airlines On "Unrealistic" Schedules

The Air Line Pilots Assn. last week charged that four companies have advertised "unrealistic and impractical" flight schedules in their hot competition for passengers.

Although the ALPA named only American Airlines, Eastern Air Lines, National Airlines, and Trans World Airlines in charges filed with the Civil Aeronautics Board, the union said other lines follow the same "deceptive" practice. ALPA's criticism is based on the fast schedules published by the lines. According to union checks, "some of these flights do not maintain their schedule once in a month," Clarence B. Sayen, president of ALPA, protested to CAB. He called on the board to insist that companies "comply with standards of true scheduling which CAB has proposed."

Why the fuss? ALPA says that "unrealistic" schedules place "undue burden" on pilots and other employees

and that the added pressure is a "threat to safety in air transportation." Airlines retort there is another apparent reason. Since airline flight personnel are paid, in part, on the basis of hours in the air, faster schedules cut into total earnings.

• • •

Clothing Union Aims Drive At "Underdressed" Males

How many suits do you have in your closet? Unless you have at least five, you are "underdressed," according to the Amalgamated Clothing Workers of America. ACWA's Pres. Jacob Potofsky says every man should have a variety of suits—but most haven't.

"Too many men just reach out for a sport shirt and slacks these days," Potofsky said in announcing plans for a union campaign to make American men more clothes-conscious.

The union's interest in doing this is economic—not esthetic. ACWA wants to create more jobs.

• • •

Workers With "Second" Jobs Increase to Postwar High

More workers are now holding two or more jobs than at any time since World War II, according to a survey by the Census Bureau. A sampling made last July, and just announced, shows that one of every 18 workers reports a "second" job—usually in the trade and service industries.

The trend to "moonlighting"—or working another shift or halfshift after a regular job—is significant. Unions say this practice is "forced" by high prices. Economists attribute it to the expanding wants of workers.

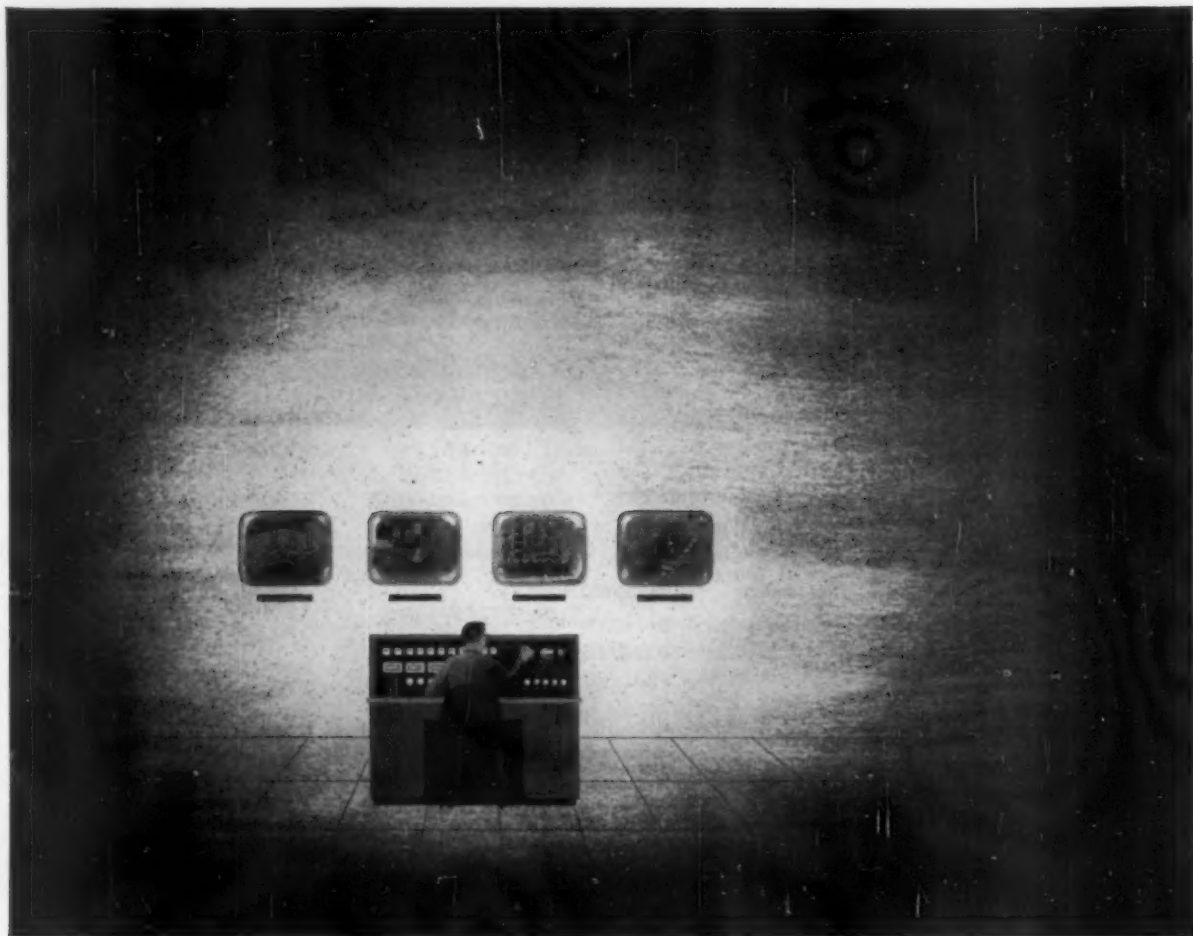
Whatever the reason, the wider interest in a second job must be recognized as a factor in union demands for a reduction in the work week. Many of the workers advocating the shorter week desire it more because it may mean an opportunity to make extra money than because of its supposed objectives—the creation of jobs for those hit by automation and more leisure.

• • •

Labor Briefs

AFL-CIO's Committee on Political Education this week opened a two-month circuit of regional meetings aimed at mustering union support (and raising funds) for its work in 1957 and 1958. Leaders fear racket hearings will bring a fight over new labor legislation—at a time when COPE's treasury is practically bare.

Brotherhood of Teamsters has cut its per capita monthly payment to AFL-CIO's Industrial Unions Dept. from \$8,000 to \$500. IUD, headed by Walter Reuther, says the union must pay the full amount, on 400,000 members, or be dropped. The squabble has created new tension within merged labor.



automation alloys

Pushbutton era demands Specialty Alloys with built-in "predictable performance"
Automatic production places new emphasis on longer machine life with less downtime for repair and replacement. Today, a broken machine part . . . a prematurely worn-out die . . . a sheared-off fastener . . . just one can tie up an entire production line or plant. Obviously, the answer is better steels. Not necessarily new steels, for improved analyses already exist that can lengthen tool and die life . . . strengthen vital machine parts. Machine tool builders, tool and die makers, forgers and fabricators are working with Carpenter Specialty Alloys right now that meet the tests of the automation era. And when more new developments are needed, you can depend on the true Specialty Steel Mill to lead the way. The Carpenter Steel Company, 140 W. Bern St., Reading, Pa.

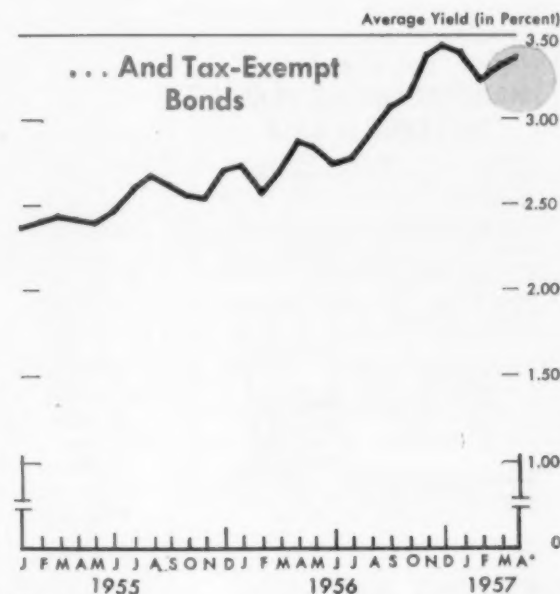
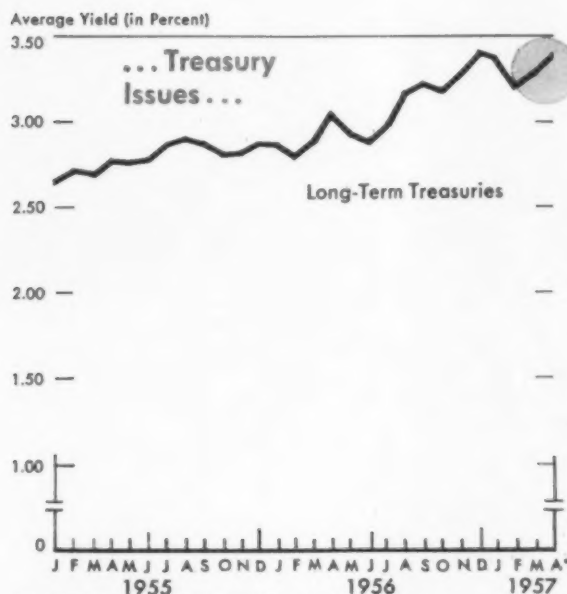
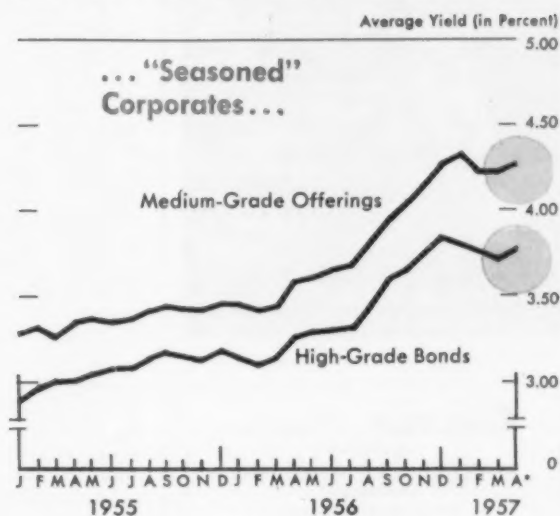
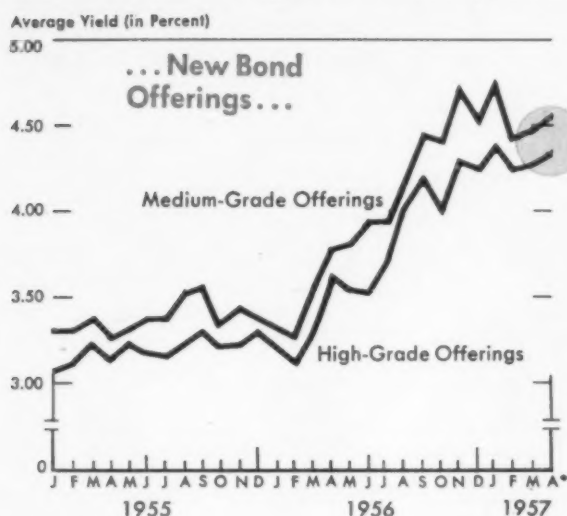
***Carpenter* STEEL**

Specialty tool, alloy and stainless steels for critical applications



THE MARKETS

How Recent Tighter Money Market Has Hiked the Yields of . . .



Data: Moody's Investor Service, Standard & Poor's Corp.

*Last-Half Averages

Bond Prices Soften Again

The latest rise in money rates springs from renewed attacks on inflation, wait-and-see stand by buyers, and the vast amount of offerings overhanging the markets.

LONG-TERM MONEY RATES have started a new climb, after some weeks of easing (charts). You can see the signs of the new trend all through the bond markets, as prices edge downward.

A good many factors account for the


shift toward higher rates. Among them:

- The decision by the nation's money managers to resume their attack on inflation (BW-Apr.27'57,p49).
- The growing tendency of important bond buyers to sit on their

hands until the Treasury reveals the terms of its next financing operation. The wait-and-see attitude is natural enough; the yields of government obligations are the cornerblock of the whole national money-rate structure.

• The amount of financing of all sorts—the highest ever—that continues to flood into the new-issues markets. It's estimated that in April the flotations of housing, World Bank, foreign, local government, and corporate issues

fabulous feather-light
minox
camera
 ... the tiny
 precision camera that
 takes wonderful BIG
 pictures ...
 so easy to use!
 At all camera
 stores ...
13950



For literature, KLING Photo Corp.
 257 Fourth Ave., N.Y. 10

Gemar Associates
 CONSULTING
MATERIALS HANDLING
 ENGINEERS
 over 25 years experience
 GREENWICH, CONNECTICUT

**DESIRABLE
 MANUFACTURING PLANT
 for LEASE or SALE**

Ideally situated in San Carlos, California, on the San Francisco peninsula; centered in one of the country's best pools of technical and highly skilled labor.

Total land area 4-plus acres, with 40,000 square feet in modern production and office buildings. Good access and parking; convenient to railroad. Excellent personnel facilities, including well-equipped cafeteria.

Zoned for light manufacturing. Fully sprinklered. Excellent power, lighting, heating, ventilation facilities.

PRINCIPALS ONLY
 Please phone or wire
 collect for illustrated
 brochure. Ask for
 Mr. C. H. Johnson.



VARIAN ASSOCIATES DEPT. 056
 611 Hansen Way, Palo Alto, California, Phone DAvenport 5-5631

PERSONNEL MANAGERS NEED ENGINEERS ... TECHNICIANS?

Write us today for a free copy of
 "RESERVOIR OF ENGI-
 NEERS & TECHNICAL MEN"

It explains how you can pin point your employment advertisement to just those men with the job qualifications you want ... without wasting money on superfluous circulation.

Classified Advertising Division
 McGraw-Hill Publishing Company, Inc.
 330 West 42nd St., New York 36, N. Y.

were close to \$1.6-billion. That's 80% above the year-before month, and the second straight month in which new borrowings topped \$1.5-billion.

Most of the experts are reluctant to guess publicly how long money rates will continue to move up. On balance—and everyone protesting that he can't allow for the unforeseen—the feeling seems to be, as one market student put it last week, that "We will continue to have tight credit, perhaps even tighter."

• **Appetite for Capital**—Of course, the picture would change sharply if the demand for new money eased off unexpectedly, but there are no signs visible now that the national appetite for new capital is anywhere nearly satisfied.

This doesn't mean that new money offerings in the next four months will necessarily maintain the record-smashing \$6.5-billion pace set in the January through April stretch. But even if the volume drops below record levels, it seems certain to remain tremendous. Long-term corporate bond offerings have already been announced to the tune of \$900-million, with almost as many more well along in the planning stage. An even more imposing mass of offerings is overhanging the tax-exempt municipals market.

• **Remnants**—There's one relieving aspect in the corporate division of the new issues market: No very great amount of unsold remnants from recent offerings is visible to clutter the dealers' shelves. However, buyers have by no means been avid in gobbling up all the issues that have been placed before them. On the contrary, look at the remnants that can still be picked up in the over-the-counter market:

AT&T 4½s are available at around par instead of 101¼% originally asked.

Mississippi Power 4½s, available at 110¼ instead of 102.

California Electric Power 4½s available at 99 instead of 100.4.

Flintkote Co. 4½s at 100 instead of 101.

New Orleans Public Service 4½s at 99 instead of 100.8.

Western Massachusetts Electric 4½s at 99½ instead of 101.4.

The shelves in the municipal new issues market are also a bit less cluttered than was the case up to recently, thanks in part to the "complete" sale last week of several large underwritings for which "realistic" bids were offered and accepted.

This trend to "realism," plus the many "selling jobs" that have been seen, could have uncomfortable implications for approaching flotations of corporate bonds. For it could easily mean that the underwriters would conclude that this was no time to sharpen their pencils too finely in bidding for new offerings.

Wall St. Talks ...

... about sugar's rise ... a
 "joy rider's" home front ...
 high railroad costs ... stock
 purchase plans.

Sugar is one commodity that hasn't been fooling around getting nowhere lately. It has soared to its highest price since 1951, and commodity experts expect the price to stay high for some months at least. That's why Standard & Poor's sugar-stock group index recently jumped to its highest level since early 1946.

In case you don't know: Universal Cyclops Steel Corp., whose stock—touted in the Street as "another Lukens Steel"—has lately leaped and bounded to levels some 70% above its 1957 low, has for some time been laying off workers because of lagging business. Since early March 200 workers have been furloughed, and additional layoffs are planned.

It costs to keep a railroad up to snuff these days. Moody's, for example, figures that Illinois Central's equipment debt will add up to at least \$75.4-million by the end of 1957 vs. only \$58.9-million two years earlier.

One rumor that won't be downed: The report that a Kimberly-Clark Corp.-Rayonier, Inc. merger is under serious discussion. What reportedly touched off such talks: Rayonier's great need, due to its big expansion program, for an assured domestic market for its enlarged productive capacity.

Company employee stock purchase plans are fine when bull markets follow their inception. One company reports that since 1950 employees have invested \$1,796,000 in shares now worth (if they were held) \$7,789,000. But of 361 subscribing under the last plan, 80 have since decided to drop out as the market price of the shares skidded below the offering price.

Hope springs eternal ... one stockholder question at Johns-Manville Corp.'s recent annual meeting: "In looking for asbestos" around the world "does the company sometimes find other minerals like uranium?"

Textile dividend cuts zoomed one day last week. Burlington Industries, Inc., and the Burlington-controlled Pacific Mills each sliced its quarterly payments from 25¢ to 20¢ a share last Friday, and American Enka Corp. announced a similar 40¢-to-25¢ cut.



Will today's defense dollars buy safer air travel tomorrow?

Fabulous Radar—the ever-watchful eye that sees aircraft night and day through rain, fog and snow—continues to unfold new miracles, to build an ever-stronger defense for America. A recent Avco-Crosley contribution to the military is the new height-finder radar, developed in close co-operation with the Rome Air Development Center, Rome, New York.

But there are peacetime benefits, too. Avco-Crosley, for example, has assisted the Air Force Cambridge Research Center in the development of Volscan, a semi-automatic air traffic control system. Already tested by the U. S. Air Force, Volscan has proved its ability to almost triple airport landing capacities . . . to help solve today's mounting air traffic problems.

Such progress leads the way to a completely automatic nationwide air traffic control system. Soon, passenger aircraft may wing coast-to-coast in complete and automatic safety—watched and controlled from the ground.

Thus, as defense dollars preserve the peace, they also help create a world of greater safety. And as Avco-Crosley serves defense, it builds for America's future.

For additional information about other Crosley electronics developments, write on your letterhead to: Manager of Electronics System Engineering, Avco-Crosley, 1329 Arlington Street, Cincinnati 25, Ohio.

FOR A COPY OF THIS WEIMER PURSELL ILLUSTRATION, SUITABLE FOR FRAMING, WRITE TO PUBLIC RELATIONS DEPT., AVCO MANUFACTURING CORPORATION, CROSLLEY DIVISION, 1329 ARLINGTON STREET, CINCINNATI 25, OHIO.

avco | Crosley

defense and industrial products

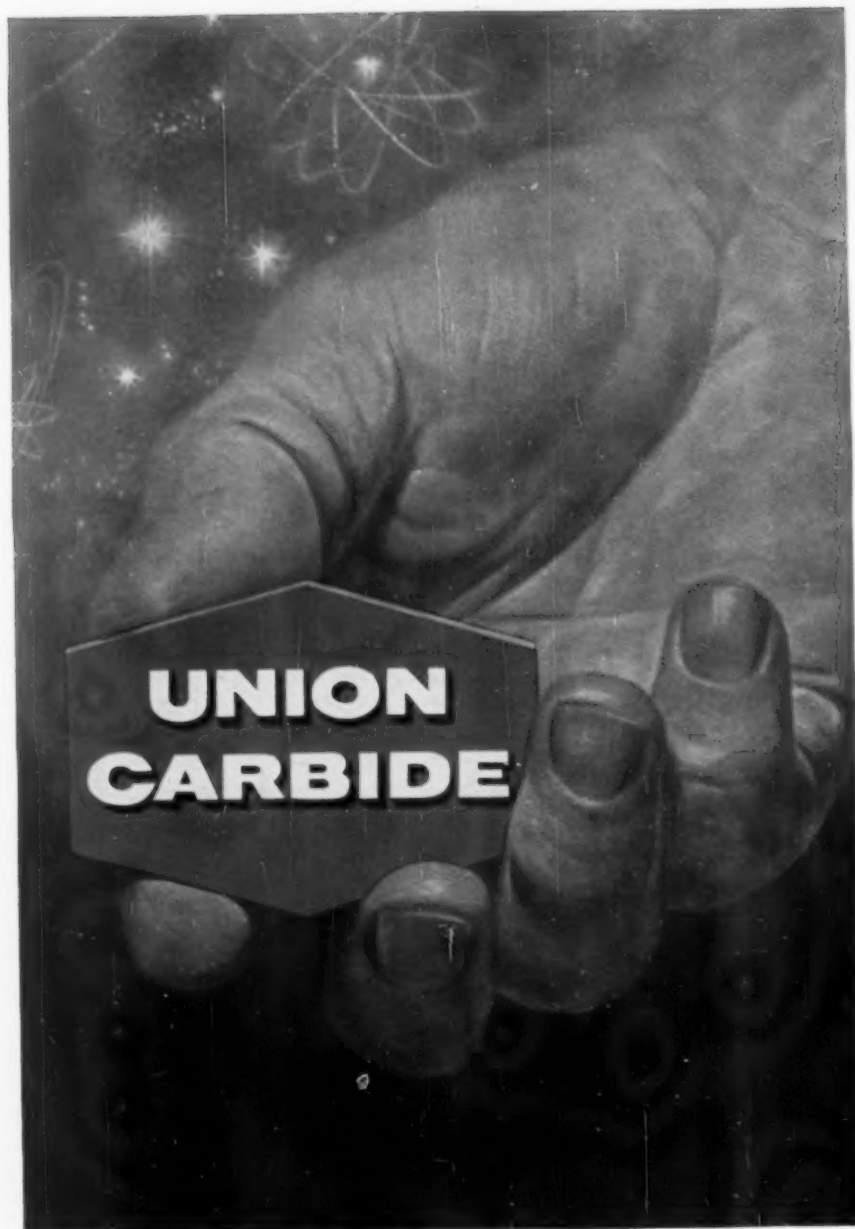


Lt. General Clarence S. Irvine,
Deputy Chief of Staff Materiel, USAF, says:

"The great progress which has been made in the field of avionics has been achieved by close teamwork between the Air Force and private industry. Daily application of new developments continues to contribute mightily to the growth, development and well-being of our nation."

Avco's defense and industrial products combine the scientific and engineering skills, and production facilities of three great divisions of Avco: Crosley; Lyeoming; Research and Advanced Development—to produce power plants, electronics, airframe structures, missiles, and precision parts.

TODAY'S MILITARY SERVICES WITH THEIR TREMENDOUS TECHNOLOGICAL ADVANCES MADE POSSIBLE THROUGH SCIENCE, OFFER A VITAL, REWARDING CAREER.



For Forty Years our name has been Union Carbide and Carbon Corporation . . . more generally called "Union Carbide."

Now our company name will be Union Carbide Corporation. The change is in name only. The people of Union Carbide will continue to pioneer in developing and producing carbons and gases, chemicals, plastics, alloys and nuclear energy.

UCC's principal divisions and subsidiaries include

BAKELITE COMPANY
ELECTRO METALLURGICAL COMPANY
HAYNES STELLITE COMPANY
KEMET COMPANY
LINDE COMPANY
NATIONAL CARBON COMPANY
PYROFAX GAS CORPORATION
SILICONES DIVISION
UNION CARBIDE CANADA LIMITED
UNION CARBIDE CHEMICALS COMPANY
UNION CARBIDE DEVELOPMENT COMPANY
UNION CARBIDE INTERNATIONAL COMPANY
UNION CARBIDE NUCLEAR COMPANY
UNION CARBIDE ORE COMPANY
UNION CARBIDE REALTY COMPANY
VISCING COMPANY

Write for free booklet and learn how UCC research can help you. Ask for "Products and Processes." Union Carbide Corporation, Dept. E, 30 East 42nd Street, New York 17, N. Y.



PERSONAL BUSINESS

BUSINESS WEEK

MAY 4, 1957

A BUSINESS WEEK

SERVICE

There's a chance you aren't fully aware of a retirement nest egg you've built up through the years—a benefit that can be worth as much to you and your wife as a \$65,000 investment in tax-free bonds.

That's the amount you'd have to save to get the tax-free maximum of \$162.80 a month that you and she together can draw from Social Security.

Estate planners say many businessmen who should know better fail to understand Social Security as it may apply to them. For example, says one top adviser, many otherwise well informed people were surprised recently when Eddie Cantor qualified for Social Security, even though his earnings for the year will likely soar high above the oft-cited \$1,200 limit.

The general rule is well known:

From your 65th to your 72nd birthday, you can earn \$1,200 in a year without losing any benefits (after your 72nd birthday, there's no limit).

But there's another rule, less known until it was applied in the Cantor case, that says you do not lose Social Security benefits for any month in which you earn \$80 or less—no matter how much you earn during the other months. This means, for example, you could work six months and earn, say, \$15,000—and draw Social Security for the other six months in which you earned nothing.

Estate planners also find that some businessmen are unaware of another Social Security rule: There's no limit on the dividends, royalties, pensions, rentals (provided you aren't a real estate dealer), and deferred compensation you can receive without affecting your benefits.

In the case of deferred compensation, there is one catch—and it would be well to keep it in mind if you are working out a retirement pay contract with your company. It's this: If the agreement calls for you to perform a specific job, and you perform it, you lose Social Security benefits for as long as the job actually takes.

This affects only one of three typical deferred compensation plans:

- Your contract calls for deferred compensation in monthly payments after retirement, **with no requirement that you render services at that time.** If you can show Social Security officials that you do not render services, your payments are not regarded as wages—you lose no Social Security benefits.
- Your contract calls for monthly payments after retirement, **provided you are "available for consultation and advice."** If you can show that in practice you are not called upon to perform these duties, you lose no benefits.
- Your contract says you will receive payments after retirement, **provided you perform a specific duty,** such as checking on certain financial operations each season. Then, as stated, you are deemed to be receiving "wages" for the month or months in which you work. However, if you are able to do the work in one calendar month, you'll lose only one month's benefit, no matter how often or how much you are paid over the year's span.

In many cases, it's a good idea to have the deferred compensation contract call for an annual lump-sum payment rather than 12 monthly payments. This would tend to show that you are not expected to work regularly. You deal with the Social Security office only once a year—to show that you had received deferred—not current—compensation.

PERSONAL BUSINESS (Continued)

BUSINESS WEEK

MAY 4, 1957

Caution: If you actually perform services each month, you'll not avoid forfeiture of your Social Security benefits simply by arranging an annual lump sum payment. (You can be penalized and lose additional benefits.)

As a retired self-employed business or professional man, the test of whether you lose benefits for earning more than \$1,200 a year hinges on your rendering "substantial services" to customers or clients. You won't lose the benefit for any month in which no substantial services were rendered.

Just what "substantial services" means is hard to pin down. Factors considered are time spent in the business, type of services, your capital investment, and "the relation between what you are now doing as compared with what you did before retirement."

The important thing to remember, though, is that you can share in profits from your business or profession far beyond \$1,200 in a year without interfering in any way with your Social Security.

As all boaters know, there's been a lot of talk lately about new federal regulations governing the safety of pleasure boats with motors. The legislation isn't likely to get through Congress this season, but you can look for added restrictions next year to clamp down on waterborne hotrods. Meantime, here's a checklist of safety equipment the Coast Guard requires:

- **Lifesaving devices**—one must be provided for each person aboard. For boats under 40 ft., life jackets, ring buoys, buoyant vests or seat cushions are satisfactory. Life jackets or ring buoys are required on boats 40 to 65 ft.
- **Lights**—required for all boats operated at night. For boats under 26 ft., you need a combination light up forward (showing red to port and green to starboard) visible for one mile, and a white light aft visible for two miles in all directions. Boats between 26 and 65 ft. need individual red and green running lights on each side of the bow, visible one mile, and white ones both fore and aft visible two miles. Boats under sail must have white lights turned off, but have a white lantern or flashlight on hand.
- **Fire extinguishers**—of the portable cylinder hand-operated type—are required for all boats with enclosed spaces. (A list of C. G.-approved equipment is available from the U. S. Government Printing Office, Washington 25, D. C.) On boats under 26 ft., one extinguisher is required; boats between 26 and 40 ft., two, and between 40 and 65 ft., three.
- **Horn or whistle**—required for all boats over 16 ft. On boats 16 to 26 ft., it can be hand-operated but must be audible one-half mile. On boats 26 to 40 ft., it can also be hand-operated but must be audible one mile. On boats 40 to 65 ft., it must be power-operated and audible one mile.
- **A bell with a clear loud ring** is required on all boats 26 to 65 ft.
- **A Coast Guard registration number** is required for all outboards over 16 ft. and for all boats with permanently installed motors.

Outdoor campers and sportsmen who like to sleep in ease can get a compact all-steel trailer that sleeps four and can be set up in five minutes. The "Nimrod Camper" has ample storage compartments, snap-on weather and insect-proof curtains, and duck tenting top; \$695. Write to Nimrod Equipment Corp., Cincinnati, Ohio.

And while you're outside: Ciba offers a new type poison ivy treatment called Antivy that is said to do wonders when rubbed on like suntan oil.

A NEW CHAMPION TAKES TO THE AIR!

Flies 30% more (21 tons) 10% faster
(331 mph.)! Has nearly twice the volume
capacity of a 40-ft. box car, eight times the
power of a typical diesel freight locomotive!

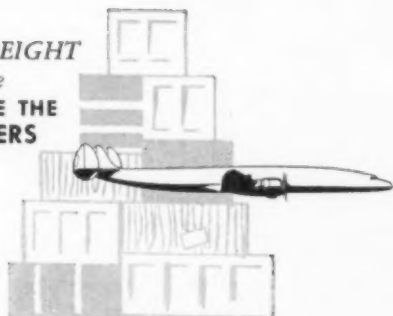


ONLY FLYING TIGERS fly coast-to-coast these **FASTEST LARGEST AIRFREIGHTERS**



LOCKHEED ALL-CARGO SUPER-H CONSTELLATIONS

For
AirFREIGHT
Service
PHONE THE
TIGERS



OFFICES IN PRINCIPAL CITIES

BETWEEN EAST, MIDWEST AND PACIFIC COAST,
they bring you the *fastest all-cargo schedules ever flown*. To
assure prompt departure and on-time delivery, *every schedule*
is an all-cargo schedule. Flying Tigers, first and largest
all-cargo airline, offers you the *most dependable* air-freight
service with the *greatest daily all-cargo capacity of any airline*.

FLYING TIGER LINE

General Offices: Lockheed Air Terminal,
Burbank, California

Our twelfth year of "can do" service





FIVE TEAMS, each a different "corporation," compete to amass the most assets. Business decisions of the teams are fed into . . .



COMPUTER that analyzes decisions of each on what to do with available cash and plant capacity. Then it emits a set of . . .



RESULTS showing how much of the "widget" market each team has captured. But teams get only hints of how rivals are doing.

CONCENTRATION is essential to players. Every 20 minutes represents a fiscal quarter of company history—and new decisions.

MANAGEMENT

Learning Can Be

A game that simulates the world of business, with an electronic computer to keep score, educates executives in making decisions—and entertains them at the same time. It's a new teaching tool developed by the American Management Assn. for use in its courses.



Fun—Even for Busy Executives

EXECUTIVES don't always like it when a flip outsider refers to business as a "game." The management men in these pictures, however, are quite literally making business a game—and liking it.

The game, devised by the American Management Assn. as a teaching tool, is a sort of million-dollar Monopoly played with the help of an electronic computer. It's a civilian cousin to the Armed Forces Staff College war games, which take much longer to play and involve only two opponents. In the

AMA version, five teams of executives spend two days doing 15 imaginary years of battle for a common market. The computer whirls through the complex details to come up with results all along the way.

Already AMA, in conjunction with IBM, has spent 12 months and \$50,000 on the project, not including the cost of an IBM computer loaned by the manufacturer. This week, it's inaugurating the game with a competition between 20 company presidents in New

York. By fall, when the association's new \$2-million Academy of Management opens in Saratoga, N. Y., the game will be the core for a course in how to make decisions. And by next year, it's expected, some 4,000 top executives will have played the game or some variation.

I. The Rules

As must be obvious from the seriousness of the executives in the pictures, the game demands concentration. It can



ONE OF DESIGNERS of game, C. J. Craft of AMA (second from right), briefs players. F. M. Ricciardi headed the project.



**PUTTING POWER
INTO YOUR
EXPANDING PROGRAMS**



**ATOMIC, HYDRO and
FOSSIL FUEL POWER
PLANT DESIGN FOR
INDUSTRIALS and UTILITIES**



Send for our descriptive booklet,
"Pioneering New Horizons"
of these and other services.

**Pioneer Service
& Engineering Co.**

231 South LaSalle St. • Chicago, Illinois



CLOSETED with teammates, executives try to decide on next move of the "company."

pay off in new insights into a company's workings. But it's also fun. Here's how it works:

To start with, the five teams—each representing a company in the \$22-million, growing market for "widgets"—are completely equal. Each has 20% of the market, \$10-million in assets, plant capacity of 1-million units at a selling price of \$5, and \$4.4-million in available cash. The problem is to win control of the market.

• **Decisions, Decisions**—A play, lasting 20 minutes, represents a fiscal quarter of company history. Every quarter, the three or four men on each team must reach new decisions on how to run



CALCULATORS are a help to players, but they sometimes wish they had computers too.

the business with the cash available to it.

These alternatives include:

- Increases or cutbacks in production, at prescribed rates.
- Buying or selling plant capacity.
- Investment in marketing and in research and development.
- Increases or decreases in prices, also within certain limits.
- Buying information on its opponents' activities. A team can find out, for a price, its competitors' shares of the market, total industry marketing and R&D expenditures, and what its potential slice of the market would have been if it had (1) exerted the maximum



CHART of results are often consulted. It doesn't end with game either, because players get so interested they discuss what might have been done for hours afterward.



Flight Engineer can see actual picture of ignition's operation in viewing scope (arrow) somewhat similar to TV screen.

MEASURES THE "PULSE" OF AMERICAN AIRLINES' FLEET

*Bendix Ignition Analyzers Promote
Greater Safety—On-Time Schedules*



If you're an occasional or regular airline passenger, perhaps you've wondered—as you listened to the steady throb of the big engines—how such mechanical perfection is maintained under rigorous, around-the-clock-scheduled airline operations. Indeed, such perfection is not happenstance. American Airlines, for instance, recently broadened its already elaborate maintenance program by equipping its entire Flagship fleet

with Bendix* Ignition Analyzers.

This remarkable device, with its canny intelligence, literally measures—and pictures—the "pulse" of the airplane engine's ignition system. Suppose, for example, a slight irregularity is noted. Within seconds the Bendix Ignition Analyzer not only locates the source, but pinpoints the reason. If trouble should develop in flight, the analyzer permits discovery, detection and treatment before it has a chance to become serious. Moreover, the pilot can radio ahead an accurate diagnosis, assuring prompt attention on arrival. Maintenance

costs are thus reduced, costly delays minimized or averted. The Bendix Ignition Analyzer is installed permanently on all of American's four-engine aircraft. All two-engine aircraft are prepared for portable-airborne analyzer usage.

Many other airlines, both large and small, as well as military and business aircraft, are installing Bendix Ignition Analyzers. They've learned it pays rich dividends in added safety, greater reliability and reduced maintenance costs. For complete details write Scintilla Division of Bendix Aviation Corp., Sidney, New York.

*TRADEMARK

A thousand products



a million ideas

See
how
good
piggy
back
can
be
...

Try
B&O TOFCEE®

B&O Trailer-on-flat car freight, with its far flung service tapping 22 states and the District of Columbia, is a good bet for you. Trailer loads move on dependable, fast-schedule trains, in all kinds of weather. Speedy, door-to-door service is assured by efficient coordination of pick-up and delivery with rail haul.

TOFCEE handling facilities, trailer types and service areas are constantly being expanded to keep pace with the increase in trailer tonnage being moved. Let TOFCEE serve you. *Ask our man!*

BALTIMORE & OHIO RAILROAD
Constantly doing things—better!

marketing effort or (2) charged the highest possible price.

- **Electronic Help**—Players find that the 20 minutes allowed for each play usually seem like four. When time is up, their decisions are rushed to a computer, which weighs one team's plans against the others through a set of interlocking formulas. Then it spews out a quarterly report, letting each company know how it made out—and a little bit of what the competition is up to.

When it's all over, the company that has amassed the most in total assets is the winner. But the game is so constructed that nobody ends up with less than his starting stakes, and, theoretically at least, everyone gains in knowledge. Participant interest is intense, and post-mortems go on for hours.

II. Mirror of Life

Just as in real business life, a team's success depends on how well it can juggle allocations for maximum market impact against the opposition. It's not easy. For one thing, the teams receive no clues as to what they're making, to the state of the current market, or to the relative weight assigned any one factor by the computer.

But within highly simplified and fairly rigid limits, the designers tried to make the game parallel business realities. And there's evidence that they succeeded: In a series of test runs, experienced line executives applying their business sense did better than the designers—who had the advantage of knowing the basic premises programed into the computer.

The player has to keep all the factors in balance—and simultaneously adjust quickly to shifts in the market and in rival strategies. More money spent for marketing means less available for research. Cash used to buy information means less for production.

- **All Things Equal**—But the game does omit the human element of personality. In the business world it creates, all salesmen are equally persuasive, all scientists and engineers equally resourceful.

There are other aspects of real life from which the players are exempt. You can't borrow capital from outside, nor can you buy out a competitor. Nobody's workers ever go on strike. And there's never a recession. As a matter of fact, some of these factors could be slipped into the game. But despite its omissions, the computer game's little universe has much in common with today's booming, slightly inflationary economy.

III. Learning Is Fun

The AMA—which makes its bread and butter by trying to teach the art of management—boasts of the game's special advantages:

Chrysler Corporation
pushbutton driving*, now in
its second year, is still the
easiest and safest control
of all. With new TorqueFlite
transmission, you get
unmatched smoothness and
surge. This is engineering
leadership. Plymouth, Dodge,
De Soto, Chrysler & Imperial.

*Another big reason why The Switch is On to the cars of The Forward Look

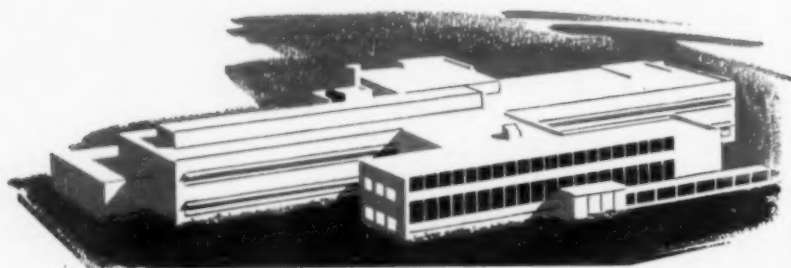
COME TO MICHIGAN

...Bendix Aviation Did!

This new multimillion dollar research plant of the Bendix Aviation Corporation has recently been completed in suburban Detroit. Located on a 46-acre site and with approximately 85,000 sq. ft. of floor space, it will be devoted to research on guided missiles systems, computers, nuclear reactors and related scientific efforts. In selecting its site for this new plant, Bendix took advantage of many unique Michigan assets including its abundance of trained technicians, engineers, and scientists, its great universities and research facilities, its availability of basic materials, and its spirit of community assistance. Bendix found—as you will—that Michigan is good to industry!

Write, wire or phone—

MICHIGAN ECONOMIC DEVELOPMENT DEPARTMENT • 111 STEVENS T. MASON BUILDING, LANSING, MICHIGAN



oo-la-la!
WHAT NEW
TASTE!

With a GAULIN
HOMOGENIZER

Here's a new lift and life for your product!

- Accent taste, scent and color. Lock in subtle flavors and fragrance.
- Improve texture, make a fine and uniformly stable emulsion or blend.
- Keep it good looking — no more separation and "shake well before using"!

How about your product? Complete research and pilot plant facilities to help you. Send for FREE Bulletins.

MANTON-GAULIN
Dept. BW, 48 Garden St., Everett 49, Mass.
Pioneers in Blending and
High Pressure Pumping Since 1908

AUTO-MATE

Your Company's
Floor Maintenance

WITH General FLOOR MACHINES

Scrub • Wax • Polish
Buff • Steel Wool
Dry and Wet Vacuum

SAVE

Every desired engineering improvement... many exclusive with GENERAL. Choice of wide range of portable Floor Machines, Wet & Dry E-Con-O-Vac Commercial Vacuum Cleaners—for all type floors.

Also for Your HOME!

GENERAL Twin-12A, "America's Finest Floor Polisher-Scrubber and Rug Cleaner."



General FLOORCRAFT, INC.

421 Hudson St., New York 14, N. Y.

World's Most Complete Line • Established 1930

Reduce Floor Maintenance Costs—Mail Coupon!

Send details: ☐ Industrial ☐ Home

Name _____

Street _____

City _____ State _____ BW-5

• Most important, it illustrates dramatically a point many managers overlook—that a company doesn't operate in a vacuum. On the contrary, it's constantly interacting with its rivals.

• By forcing players to allocate cash among various departments of a company, and then to live with the results, it brings home the point that all parts of the business have to hang together.

• By casting department specialists in the role of company presidents—obliged to make sweeping decisions—it gives them an insight into the problems of over-all management.

Executives who have played the game so far seem to think that they already know all this—but that the other fellow doesn't (at least, not quite). Besides, they say, plenty of others at the plant back home would find it illuminating—which is just what AMA wants.

• **Variations**—AMA is so pleased with the first game that it's already considering variations on the same theme. For example:

• An inventory game, in which the stress would be on optimum inventory and distribution levels.

• A game involving competition with more than one product.

• A game in which opponents can merge.

• A "super" game to pose problems of organizing to meet competition—for instance, whether to choose centralization or decentralization, product lines or regions as a basic.

• Eventually, venture the designers, the game may prove useful in executive testing.

• **Handy Hints**—In the meantime, though, several thousand executives will be playing the prototype game this year. If you're among them, here are some tips:

As in real life, you'll find that most companies tend to cluster together in performance. You'll be pretty safe if you follow the crowd—but you don't have to. It's a boom economy; so don't be afraid to expand. Market demand will continue high, and you'll even find something resembling inflation. As selling prices swing up, there'll be no apparent loss of markets.

At least in the beginning of the game, you may find marketing and R&D efforts are heavily weighted by the computer. Act accordingly.

From here on, though, you're on your own, against tough opposition. You'll wish you had a computer of your own, to run up charts and figures.

One more suggestion: If you can ever get rolling with high production and then build up some inventory, try a dramatic slash in your sales price. The screams from the competition will be every bit as loud as in reality. But, after all—it's only a game. **END**



BEAUTY MORE THAN SKIN DEEP

A MILLS INTERIOR

Beauty acquires a new dimension in modern interiors by Mills. These walls are movable...they employ an entirely new concept in space flexibility, the complete modular integration of movable partitions with ceilings and floor plans. They give you Space Control. As changes occur in your space requirements, Mills Walls can be moved to fit new layouts...quickly and easily, without dust, debris or commotion...without interrupting your normal use of space.

Exclusive basic features in the design and construction of Mills Walls particularly facilitate the creation of beautiful modern decor and personalized custom interiors—using any of the host of new finishing materials now available...textured finishes of fabric...grass cloth...wood veneer...compositions of glass and cork...scores of other combinations.

THE MILLS COMPANY



961 Wayside Road



Cleveland 10, Ohio

MILLS MOVABLE WALLS



For more information on the newest
and finest in movable walls today
write for the 1957 Mills Catalog.



Looking for new construction business?



Find out how to focus on live prospects!

Mail the coupon below... whether you wear "specs" or not, you'll clearly see with Dodge Reports who's ready to buy your product or service. You'll learn how to pinpoint active prospects... get up-to-the-minute details on what projects are going to be built, where, when, and whom to see. Pick just the type of construction you're interested in, and pay only for the territory coverage you need. Get the facts on profit-building Dodge Reports. Fill in the coupon now!

F. W. Dodge Corporation, Construction News Division
Dept. 85, 119 West 40th Street, N. Y. 18, N. Y.
I want to know how to get more construction
business... please let me see some typical
Dodge Reports for my area. I am interested in
the markets checked below.

☐ House Construction ☐ General Building
☐ Engineering Projects (Heavy Construction)

Area _____

Name _____

Company _____

Address _____

City _____ Zone _____ State _____



School Tests as Science Bait

Oklahoma fights the shortage of technical people by whooping up study of student aptitudes. Result: a good sized rush to high school math and scientific courses.

In widely scattered places, in widely varied ways, industry has been attacking the besetting shortage of scientists and engineers right at the root—by encouraging bright high school students to get started toward a technical career.

Most times, the effort bears some fruit. Occasionally, one makes a really big score. Right now, Oklahoma is a case in point for the big successes. Under the prodding of an industry-sponsored drive, enrollment in physics courses in the state's high school were up 220% last year; algebra and plane geometry rose a respectable 25%. And 22% more students signed up for science courses generally than had enrolled the year before.

Individual schools showed the trend vividly. In one, 75 students took chemistry; in 1956 the figure was 25. In another, geology enrollments rose to 123 from 95; physics classes more than doubled.

• **National Decline**—These figures must be examined against the national background where, in 40 years, the percentage of high school students taking math and science has shrunk to less than half the original size. Of course, educators point out that the national shrinkage has to be discounted quite heavily because of the immense increase in high school students, with a growing percentage drawn from groups unlikely to go on to college. But even with the discount, the showing in Oklahoma is highly impressive in national terms.

• **Foundation**—Several groups have had to do with the Oklahoma program, but the prime mover throughout has been the industry sponsored Frontiers of Science Foundation, set up to help promote the scientist in Oklahoma. Basically, the drive has used tests to ferret out bright students with latent scientific proclivities, and then gotten them steered in the desired direction by a judicious mixture of urge, shoving, and public back patting.

The seed of Frontiers of Science Foundation was planted at a mid-1954 meeting to discuss Oklahoma's semicentennial exposition slated for the summer of 1957. Active at the session were E. K. Gaylord, publisher of Oklahoma City's two daily papers, Dean McGee, president of Kerr-McGee Oil Industries, Inc., and other leading businessmen.

Once the Science theme had been picked for the centennial, men who had

attended the meeting began sniffing at labs and research projects around the country for background material. They discovered, among other things, that vastly important work was being done by too few people, amid general yawns from the public. And they got the idea that it would be very nice if Oklahoma could attract some science-based industries.

• **Funds Pledged**—In the fall of 1955, the foundation was formally organized, shored up by \$74,800 in cash and pledges for \$400,000 within five years, and aimed at stirring up interest in science, and science careers, and at attracting industry.

Quite soon, the local foundation persuaded the National Science Foundation to put up \$250,000 for a special one-year training course for 50 high school science teachers at Oklahoma A&M (BW—Dec. 8 '56, p. 183).

From this program stemmed the pupil-testing program that really has given science careers their big boost in Oklahoma.

For some years, the Chicago commercial testing firm of Science Research Associates had been cooking up educational tests going beyond the regular IQ type in that they sought to measure over-all achievement in terms of everything the student had picked up from any source—TV, a machine shop, school.

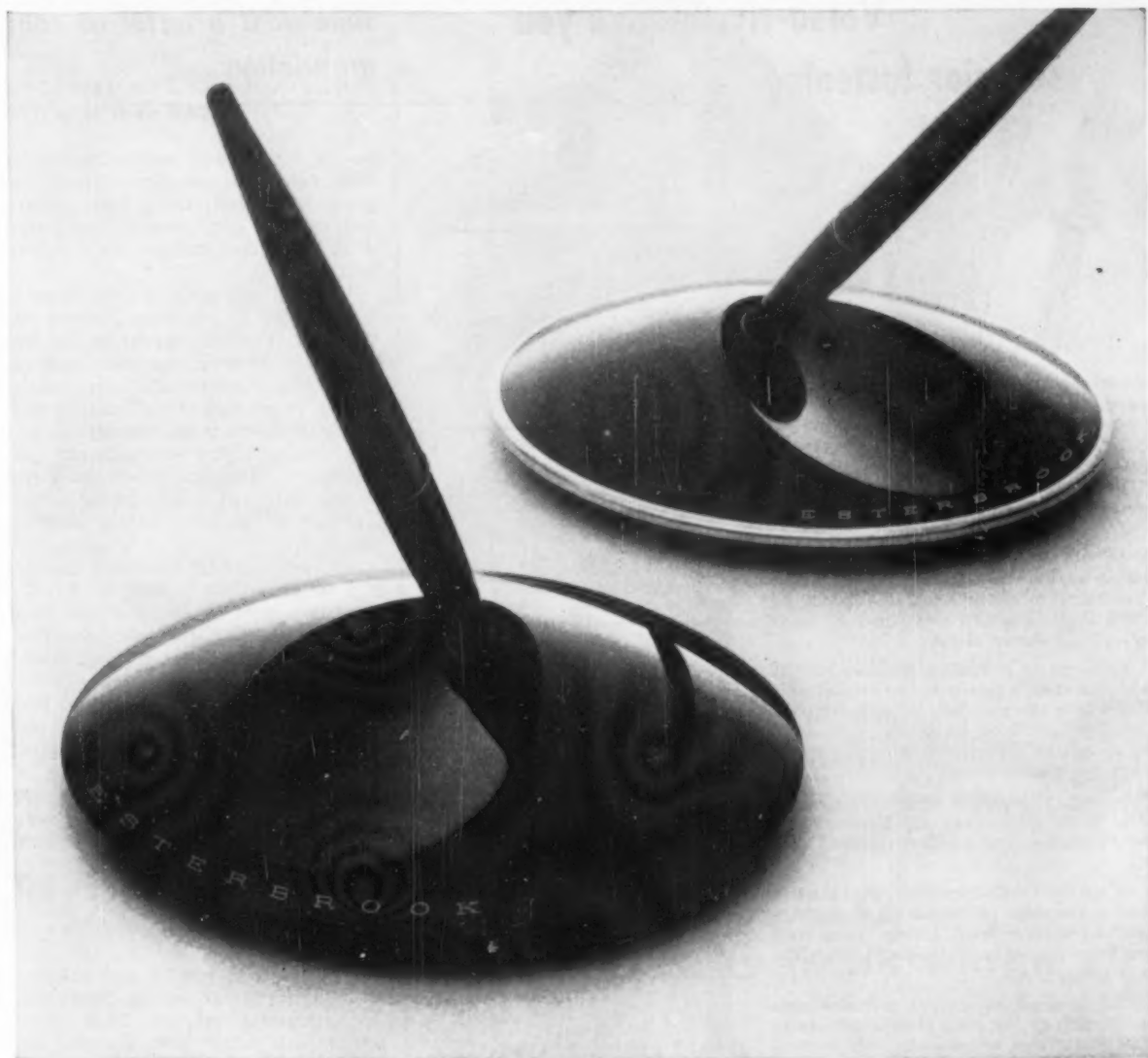
The tests cover a variety of subjects, are said to show accurately whether a student will do well in the sciences. In the fall of 1955, Lyle Spencer, head of SRA, asked the National Science Foundation's Harry Kelly where he could find a broad field to apply the tests. Kelly mentioned the Oklahoma Foundation.

The two outfits got together, and brought in a third partner—the Oklahoma Curriculum Improvement Commission, which wanted to find out how the state's schools stacked up against the rest of the country.

• **The Tests Begin**—Between them, they got things going in a few months. Some 60,000 students, in 401 high schools, were tested—at a cost of \$46,683. The foundation put up \$4,683 for administrative expenses, the rest came from the schools at 70¢ per student tested. Incidentally, the curriculum group found out that Oklahoma's students were 1% below the national average.

All during the testing, the foundation

ESTERBROOK presents the RECORDER*



Now a truly dependable ball point desk set

It writes 100 hours without refilling. At last, here is a desk ball point you can depend on. It took 9 years for Esterbrook to perfect the Recorder—and this painstaking craftsmanship shows in its superb writing quality.

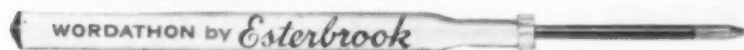
The Recorder starts writing instantly. Ink flow is steady—no blotting or “starving.” Ink won’t smear . . . yet it washes right out of clothes.

Exclusive *Wordathon* Refill Cartridge writes up to 5

times as long as ordinary ball points—more than six months’ normal office writing for only 69¢.

Think how much this can save you in convenience and low, low maintenance costs!

This amazing *Wordathon* Refill Cartridge comes in your choice of red, blue or black ink . . . fine or medium ball sizes. Try the new Esterbrook Recorder desk ball point soon. **\$2.95** at list for the complete set. Recorder de luxe, **\$3.95**.



*Wordathon** Cartridge shown full size

*TRADEMARK

Esterbrook

Five reasons why Townsend Versa-rivets* give you superior fastening



Townsend Versa-rivets are versatile, self-plugging blind rivets which can be set easily and rapidly by one man from one side of the work. They save assembly time and allow greater flexibility in product design. Here are the five qualities which mean ideal fastening at lower costs:

1. Strong clinch and resulting high resistance to vibration are obtained with Versa-rivets. In setting them, the shank is expanded against the face of the back sheet, drawing the two sheets together and clinching them effectively, as shown above.

2. Versa-rivets provide a positive hole fill because the stem is drawn down to completely fill the hole in the members being assembled. Sound, strong riveted joints are obtained in holes up to .025" oversize with shear values comparable to solid rivets.

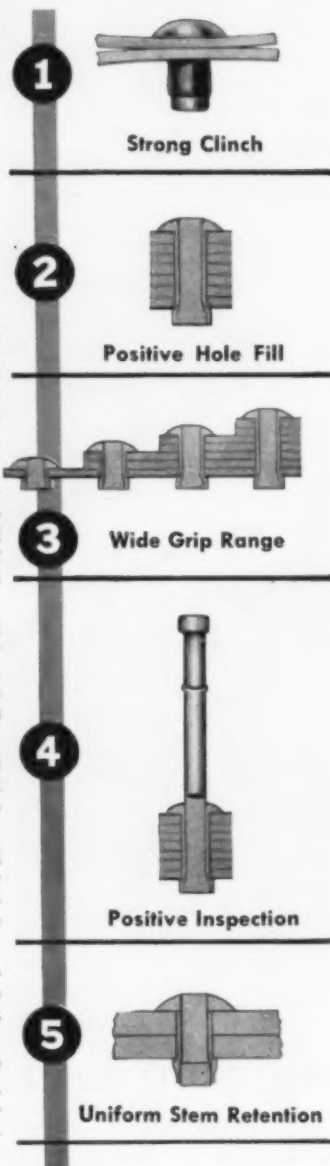
3. Inventory problems are greatly reduced by the wide grip range as demonstrated above. A single length handles various thicknesses.

4. When the Versa-rivet is set, the enlarged section of the stem protrudes approximately $\frac{3}{16}$ " above the rivet head, giving visual indication from one side of the work that the rivet is properly set.

5. The Versa-rivet always provides uniform strength as the stem always adjusts to fill the hole. Stem retention is independent of the hole size and is uniformly high.

If you would like complete details on how Versa-rivets can improve your fastening, write for Bulletin TL-119. Townsend Company, P.O. Box 237-A, New Brighton, Pa.

* Patents issued & pending.



See Versa-rivets Demonstrated At The Design Engineering Show—Booth 1139



In Canada: Parmenter & Bulloch Manufacturing Company, Ltd., Ganoquo, Ontario

"... to each student in the top 20% for scientific aptitude went a letter of congratulation..."

STORY starts on p. 172

saw to it that there was a drumfire of local newspaper coverage, stirring up plenty of interest among both parents and students. Ultimately, two-thirds of all high school students in Oklahoma took the test.

With all the results in, the foundation decided to put some frosting on the cake. To each student in the top 20% for scientific aptitude went a letter of congratulation, plus timely urgings to get ready for a career in this golden field. In most schools, the letters were presented with a panoply of ceremonial. Students considered them an important part of their school honors and prestige of letter holders shot to new highs.

The wide publicity attending the test had an interesting byproduct. Enrollment in science courses at schools that had not had the tests rose almost as steeply as it did in the tested schools. Another byproduct was new teacher and parent interest in pupils who had been rated as dull until the tests unveiled their latent scientific aptitudes. Such pupils generally turned out to be not dullards but just bored by the ordinary run of school courses. Now, some of them are getting special work worthy of their caliber.

• **Carrying On**—With the test completed, the foundation is now trying to keep the ball of public interest rolling by:

- Setting up exhibits and lectures.
- Helping finance an accredited TV education program that offers courses that might not otherwise be available.
- Distributing education materials to improve school courses.
- Helping sponsor special college programs for science teachers.

In these activities, the foundation comes closer to the other industry sponsored programs that are working to stir up interest in scientific and engineering careers. Many companies work for better students by seeking more and better teachers. Some follow the National Science Foundation program of study fellowships for science teachers; others offer summer jobs to fatten the bank accounts of science teachers. The job approach is tried on students, too; summer jobs in industrial labs are offered to draw likely students into the field—students as like as not that were noted through such tests as those in Oklahoma. **END**

Progress with **TITANIUM** →



HEAT TREATED TITANIUM

...helps the Hustler spread its wings

The Plane: The U.S. Air Force's delta-winged B-58 Hustler, made by Convair—Fort Worth. To achieve supersonic speeds, designers had to make optimum use of all materials, considering strength, weight, high temperature performance.

The Improvement: 6Al-4V titanium alloy, furnished by Mallory-Sharon, was used in certain applications as a direct substitution for steel for wing fittings bearing heavy loads. This alloy, weighing 44% less than steel, has equal or superior strength for the heat-treated conditions.

The Service Need: The Hustler is the first major application of a new technique that extends titanium usefulness

—heat treating. The alloy material is supplied in a medium strength level which permits ease of rough machining. Then the part is heat treated and finished machined to the high strengths desired in service.

To help in this development, Mallory-Sharon service engineers recommended and assisted Convair in establishing qualified subcontractor sources. We furnished bar stock to these companies for

evaluation, recommended furnace type, conditions, temperatures, and heating times. We performed mechanical and chemical tests before and after heat treatment, to guide this phase of the program to a successful conclusion.

The Result: Improved performance; America's first supersonic bomber. Use Mallory-Sharon's outstanding technical service on your applications of this new metal. For information, write Dept. Q-5.

MALLORY  SHARON

MALLORY-SHARON TITANIUM CORPORATION • NILES, OHIO



Producers of titanium and titanium alloy sheet, strip, plate, rod, bar, billets

National TRUCK LEASING

is the modern,
better way
to

**"OWN"
YOUR
TRUCKS**

... Without Capital Investment



Fine equipment—a Chevrolet or other make—equipment which is engineered, painted and lettered to your specification, driven by your own drivers and **depreciated on contract** exactly as though you owned it—but **without buying it, without** the work, worry, insurance, maintenance and the million-and-one details of actual ownership—that's **Truckleasing** today through a National Truck Leasing System member-company!

TIME TO MIND YOUR OWN BUSINESS!

Don't tie up your capital in trucks to add to your worries!

Trucks are our business. Find out how you can convert your trucks to cash for operating or expansion capital.

Write today.



Members in principal cities

National

TRUCK LEASING SYSTEM

23 E. JACKSON BLVD. • SUITE 8-5 • CHICAGO 4, ILL.

DON'T FREEZE OPERATING AND EXPANSION CAPITAL IN TODAY'S "TIGHT MONEY" ECONOMY

... don't tie it up in trucks in **any** money market when full-service NTLS truckleasing furnishes everything but the driver—even your frozen cash! You're released, too, from the headaches of licensing, maintenance, insurance... and it's wholly tax deductible. Learn how you can "own" your fully maintained trucks with a single *cost-known-in-advance* invoice.

FACTS YOU MAY ALREADY KNOW: Leased trucks are smart appearing, constantly clean, perfectly maintained... emergency units instantly available for peak-load or break-down needs... elimination of book-keeping—one invoice instead of many... insurance coverage... licensing... repairing... release of capital investment... known-in-advance costs... saving of management's time... mileage checks... uninterrupted service—all **obvious** advantages of long-term Truckleasing or daily Truck Rental—under the NTLS plan.

In Management

• • •

Swan-Finch Oil Drops President In Midst of Probe by SEC

Swan-Finch Oil Corp., in the midst of an investigation by the Securities & Exchange Commission, has ousted its president. Ralph E. Damp, who joined the company last year as its president, was dropped "because of disagreements on corporate policy and procedure" with the majority of the board. He was replaced by Adm. Roy H. Callahan, USNR Ret., former executive v-p and president of Doeskin Products, Inc., in which Swan-Finch owns controlling interest.

Damp himself, who retains his board seat, blamed the firing on his demands that an "independent" firm of auditors be called in to check the books. He also said that other officers and directors had refused to answer his questions about the sales of Swan-Finch shares which the SEC claims were not properly registered.

The company also announced that Lowell M. Birrell, a former president and director, has broken all ties with the firm. Birrell came into control of Swan-Finch in 1954; since that time its outstanding shares have been increased from 94,000 to 2.8-million. Originally a producer of lubricating oils and greases, Swan-Finch has diversified into natural gas production, uranium mining, grain storage, and manufacture of paper products.

• • •

Peninsular Telephone Edges Near To Off-Mooted Merger With General

The long-discussed merger between Peninsular Telephone Co. and General Telephone Corp. came one step closer to a reality last week. Pres. Donald C. Power of General Tel has asked permission to appear before the next meeting of the Peninsular board to make a definite proposal. Peninsular is organizing a special board meeting to hear Power, should set the date sometime before mid-May. Details of the proposal still have to be worked out, but Power says that the trade will not be more than 14 shares of General for each share of Peninsular.

General Tel services some 2.8-million phones in 30 states; Peninsular has almost 300,000 phones in 10 counties in West Central Florida.

• • •

Three Companies Manage to Solve Their Widely Varying Troubles

Three companies with troubles—one financial, one from a dissident stockholder, and one from a split in management—resolved their this week.

Pressed Metals of America, Inc., Port Huron (Mich.), maker of auto parts which closed down in mid-March after three years of falling profits (BW-Mar.2'57,p167),

is trying again. George Morton, president of Ferro Cast Corp., West Coast producer of precision castings, is also to be general manager of Pressed Metals. Some of the Port Huron property will be auctioned May 14-16, and the company will open soon thereafter to make suspension parts for 1958 autos. If all goes well, Ferro Cast will eventually be merged into Pressed Metals.

Union Electric Co. stockholders gave management of the St. Louis power company a handy victory in its proxy battle with attorney J. Raymond Dyer (BW-Mar.16'57,p80;Apr.6'57,p173). Dyer lost on all nine proposals on which he opposed management, and got only 22,165 votes in his bid for a board seat against more than 9-million for the low man on management's slate.

Chicago Molded Products Corp. came up with a compromise settlement in the internal dissension between Louis Bachner, vice-president and treasurer, and his brother Edward, chairman, and nephew John, president (BW-Apr.20'57,p111). Louis agreed to call off his proxy solicitation in return for a place on the board, and a seat on a newly created Finance Committee.

• • •

Instrument Company Adds a Glossary To Its Very Technical Annual Report

Fairchild Camera & Instrument Corp. has taken steps to dissolve any fogs of unintelligibility that might becloud its annual reports. The Long Island maker of aerial reconnaissance cameras and missile guidance devices has appended to its annual report a glossary of the technical terms included.

Realizing that a great deal of "technical and financial mumbo-jumbo" must of necessity be in a report from a company that makes precision controls, the company settled on the extra page of definitions as the best way out. "We are no longer taking it for granted that the average layman is a combination of J. P. Morgan and Einstein," Chmn. Sherman M. Fairchild said.

• • •

Management Briefs

Ford Motor Co.'s top executives got **44% less in incentive bonuses** last year than in 1955—a reflection of Ford's decreased earnings. But the total salaries paid to the officer and director group was up slightly—some 4.5%.

Leadership potential will be the basic attribute looked for in awarding new graduate scholarships being given by the Edward John Noble Foundation. Noble, chairman of Beech-Nut Life Savers, Inc., says: This basis is being used instead of scholastic records because the two factors do "not necessarily follow" and "there is today a dire need for leadership in the world."

American Smelting & Refining Co. has a new top management trio: Kenneth C. Brownell, up from president to chairman and chief executive officer; R. Worth Vaughan, the new president; and Oscar S. Straus, new chairman of the finance committee. Roger W. Straus, no longer chairman, will continue on the board.

Products powered with

BODINE MOTORS *take* HARD USAGE

"Bodine Motors have been used in our Printomatics for over twenty years because they are small... yet able to give years of service under adverse conditions."—Fairbanks, Morse & Company



Talk to a Bodine motor-application engineer in the early stages of planning your product. You'll save needless experimentation, and may find one of Bodine's 3500 standard motors ideally suited.

Bodine Electric Co., 2280 W. Ohio St., Chicago

BODINE
fractional / horsepower
MOTORS



... the power behind the leading products



Through this door
lies the best business
route to Canada

Canada offers you opportunity—boundless opportunity in trade and investment—but only when you know her markets.

That's where *The Bank of Nova Scotia* can be so helpful to you.

A partner in Canada's growth since 1832, the BNS—now with more than 500 branches spread right across Canada—is well equipped to give you sound information and counsel.

Write for our *Monthly Review*, a regular report on various phases of Canadian business.

The BANK of NOVA SCOTIA

New York Agency: 37 Wall Street
Chicago Representative: Board of Trade Bldg.
General Offices: 44 King St. West, Toronto, Canada.
London Office: Walbrook House E.C.4 and correspondents wherever men trade.

BW-57A

CHARTS OF THE WEEK

Newsprint Production



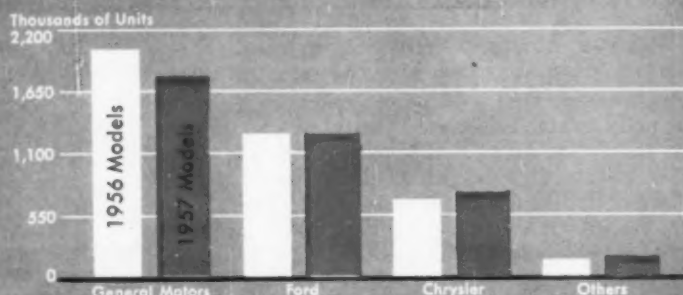
Data: American Newspaper Publishers' Assn.

A New Peak Is Reached

Newsprint production in the U.S. and Canada in March tipped the scales at 739,000 tons for a new record. The figure is 5.2% above output for March, 1956. U.S. production of 164,000 tons in March showed an increase of 10.3%, and also set a new high. Canadian output for March was up 3.9%.

These increases mainly reflect greater demand for newsprint by U.S. publishers. During March, consumption by U.S. publishers rose 3.9% over March, 1956. A substantial part of the increased consumption in March stems from there being five Sundays in the month this year, but four last year.

Auto Production The Model Year So Far



Data: Ward's Automotive Reports.

1957 Models Trail '56's

Production of 1957 model year passenger cars up to Apr. 20 was lagging 500,000 cars (11%) behind a like period in 1956. Assemblies of '57 models totaled 3.8-million, compared with 4.3-million '56 models a year ago. Only Chrysler has come close to matching its year ago rate—717,000 '57 model assemblies against 719,000 '56 models. General Motors was running about 348,000 behind its 1956 rate and Ford about 78,000 behind.

This has caused some shifts in each company's share of the total. Chrysler

now has 18.9% compared with 16.9% in the 1956 model year. Ford has moved up from 30.5% to 32.2%, but GM slipped to 45.6% from 48.8%. Among the individual makes, Plymouth, De Soto, Imperial, and Rambler production of '57 model cars exceeded that of the '56's.

These comparisons aren't all gloom, however. Early in the 1956 model year, the car makers glutted dealers with inventory; the current season's buildup has been held to more reasonable levels.



The two-lane highway is no longer adequate as millions of new cars take to the road each year. Since 1950, more than 40 million passenger vehicles have been produced.



Superhighways are being constructed throughout the country, but they, too, are often crowded because of the tremendous population increase and the number of new cars.

Will your special tooling be ready to roll in high gear?

With the nation's population and purchasing power rising, your tooling facilities must keep pace with the increased production required for growing markets. If you depend on internal facilities for most of your special tooling, will you be ready to supply the larger quantities of improved products 180 million Americans will want in 1960?

Your solution lies in the contract tool and die industry. A combination of skills, diversified experience and specialized equipment enables the contract manufacturers to turn

out the most difficult tooling better, faster and more economically than your own limited tooling personnel. You avoid excessive investments in skilled labor, capital equipment and plant space. You can concentrate on production, your main job.

To get maximum mileage from your special tooling investment, consult an NTDMA plant. Write today for a copy of the NTDMA Directory of Member Plants and Services.

National Tool & Die Manufacturers Assn.
907 Public Square Building, Cleveland 13, Ohio



IT PAYS TO GO OUTSIDE FOR SPECIAL TOOLING



"WE HAVE TO GUARD AGAINST A 'ONE-FIELD' REPUTATION"

Purolator Products, Inc., Gains Recognition Through Business Magazine Advertising

"Sometimes an excellent reputation in one field can be almost a handicap in diversification," says Mr. James Abeles, President of Purolator Products, Inc. "We're well-known in the automotive field as a manufacturer of oil filters, yet our scope is much broader. We sell filters for virtually every known fluid . . . in all manufacturing and processing . . . but are sometimes called 'automotive people' by customers and prospects.

"Business magazine advertising has helped us immeasurably here in getting our scope established. Consequently, our representatives can concentrate on specific selling proposals without spending valuable time explaining that we are not exclusively an automotive parts manufacturer."

Using business magazine advertising to keep your sales story before all prospects is a concept we call "Mechanized Selling." Your advertising can help build and hold markets by working before and between salesmen's calls to make contacts, arouse interest and create a preference for your products. This leaves your salesmen free to concentrate on their primary task—making proposals and closing orders.

IF YOU SELL TO BUSINESS OR INDUSTRY, you can reach more prospects regularly, and at far less cost, by concentrating your advertising in those magazines serving your specific markets. In most cases, you will find you can do this most effectively in one or more McGraw-Hill magazines.

McGRAW-HILL MAGAZINES

McGraw-Hill Publishing Company, Incorporated
330 West 42nd Street, New York 36, N. Y.

underwood

announces the

post-master 92



New low-cost electric posting machine soon pays for itself with savings on accounts receivable posting

How much does your bookkeeping system cost in supper money, overtime and wasted clerical time?

How long does it delay sales or credit people when they need the current status on any account?

How long does it take to mail out statements after closing for the month?

How much is your business held back by outmoded posting methods?

Can you afford such handicaps when it is so easy to simplify with the new low-cost **Post-Master 92**?

NO MORE LATE NIGHTS, NO MONTH-END RUSHING

The Underwood **Post-Master 92** posts, balances and proves both ledger and statement in a single entry. This saves you all the time now spent in footing and balancing customer accounts . . . all the time now spent in locating and correcting trial balance errors . . . all the time now spent in transcribing detail entries to customer statements. The books are kept always in balance, eliminating the overtime and frayed nerves from month-end closings. Statements are always ready to mail.

This complete posting machine also doubles as adding machine

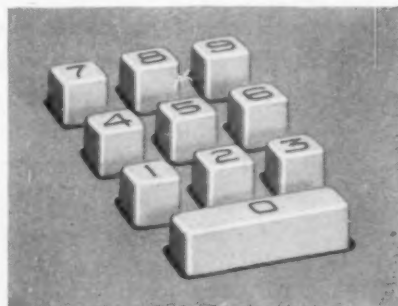
Post-Master 92 has two registers, providing for an automatic balance (debit or credit) on each account and for a proof total covering all entries made in the posting run. Other "big machine" features include automatic electric carriage return and automatic date printing. In between posting runs, your

Post-Master 92 will also serve as an efficient duplex adding machine.

You get so much for so little in the new **Post-Master 92** . . . because it is based on the long experience and proved design features of famed Underwood Sundstrand business machines. And all of its money-making advantages can be yours with easy monthly payments.

NEW PRESTIGE AND FASTER COLLECTIONS

Many businessmen feel that the extra prestige of a neat, accurate, on-time statement is alone worth the cost of a **Post-Master 92**. And the statement that arrives on time always has a better chance of prompt payment. Also, people know from experience that machine-posted statements are accurate — which again prevents payment delays.



Modern TEN-KEY method for speed and simplicity

This brand new machine gives you the extra speed and simplicity of the famous Underwood Sundstrand **TEN-KEY TOUCH** posting method. After just a few minutes of practice, your bookkeeper will be able to make machine-posted entries. She will enter figures by touch alone, without having to look at the keyboard. Everything about the machine has been simplified and streamlined for effortless, high-speed posting.

underwood
Master-Touch
business machines



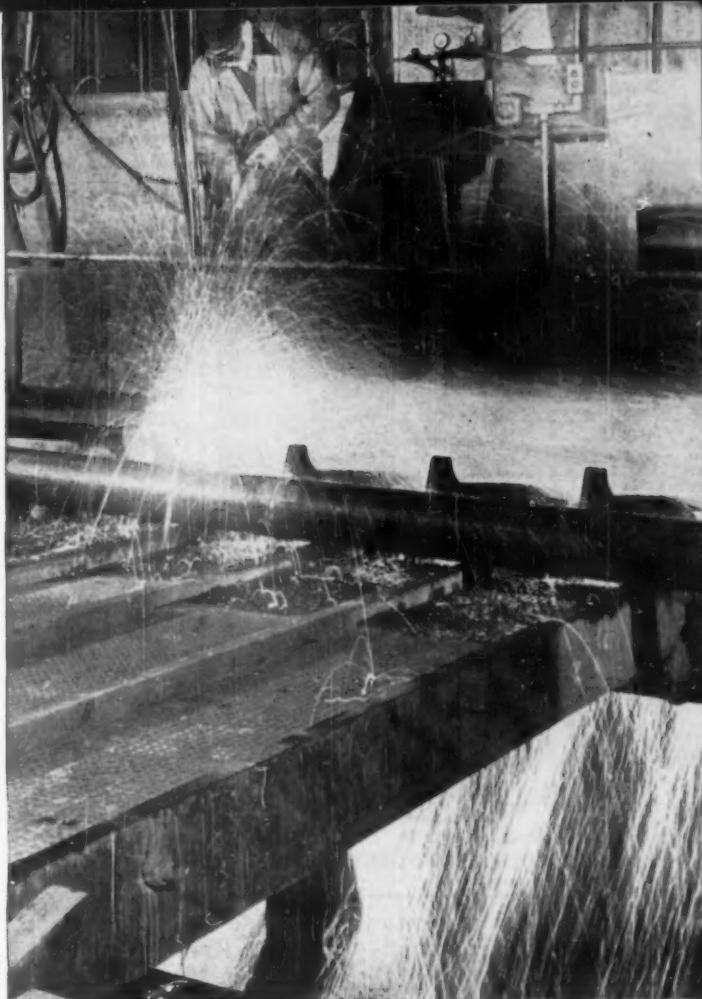
FREE FOLDER shows how easy it is for your bookkeeper to make the switchover. Unbelievable, until you see for yourself how simple it is to post accounts receivable by this modern mechanized method. Complete literature answers all your questions. Call your local Underwood Showroom (see the Yellow Pages), or write to Underwood Corporation, One Park Avenue, New York 16, N. Y.

PRODUCTION



MAGNAGLO process uses magnetic particles coated with fluorescent dye to detect surface imperfections.

SCARFING with an oxyacetylene torch quickly routs out these defects from the metal.



Steel Hunts Harder for Flaws

Steel industry is adapting an old process that promises better products for customers.

Periodically, industry discovers in a familiar process the answer to an old problem, even though problem and process have been living side by side for years. Such, apparently, is the case with the steel industry and an inspection technique known as Magnaglo. The October romance between the two may lead to better steel for customers, and a tremendous volume boost for the relatively small Magnaflux Corp. of Chicago.

The steel industry's old problem has been how to get preconditioned metal from billets—one of the semifinished forms of steel, from which wire, rod, and other so-called finished products are made. Billets "guaranteed" free from cracks and surface defects would be a big step in that direction.

The old process—Magnaglo—is an inspection technique that uses fluorescent magnetic particles to locate cracks

and other imperfections in steel. It has been used for a long time to locate defects in castings and other relatively high-priced steel products, such as seamless tubing, but only a few companies use Magnaglo test materials in the semifinished stage. Even those are special cases. Timken Roller Bearing Co., for example, adopted the technique several years ago to inspect tube rounds in its seamless tube plant (pictures). And National Tube Div. of U.S. Steel now uses it for the same purpose.

• **Red Hot Idea**—Yet all at once Magnaglo is finding a new application as one answer to the steel industry's search for better quality and higher yield. So steel producers are eying Magnaglo not only as a finished product inspection device, but as a way of inspecting virtually all high-volume, lower grade steel products in their semifinished stage—billets, blooms, and slabs. Three of the nation's top four steel companies may have installations running within the year.

Once this break-through starts, it's

likely the rest of the steelmakers will get into the act. Half of the country's top 10 steel producers have studied the application of Magnaglo inspection of semifinished products or have made plans for installation based on the experience of others.

• **New Interest**—There are at least two reasons for the sudden interest in a familiar process. One Magnaflux branch manager feels that many companies won't try a new method until someone else—usually a competitor—suggests it. A. K. Saltis, Pittsburgh manager for Magnaflux and also the company's steel mill coordinator, feels that semifinished inspection using magnetic particle techniques has been economically justified for a long time, and has only required heavy and concentrated selling.

The second, and most compelling reason for the steel industry's interest is the old bugaboo of rising labor costs and the almost prohibitive cost of new steel capacity (BW—Oct. 13 '56, p86).

• **Pioneer**—Impressive results at Timken Roller Bearing Co. bear out this

**Announcing . . . AMERICA'S
MOST MODERN . . . MOST EFFICIENT**

AUTOMATIC HAND and HAIR DRYER



**ELIMINATES ALL TOWEL COSTS—
CLEANS UP LITTERED WASHROOMS**

- Decorator Styling! • Faster Drying!
- Quieter . . . Simpler Operation!
- Push Bar Starter . . . Automatic Shut-Off!

GUARANTEED 2 FULL YEARS!

**Write Today for
New Brochure!**

SAVE UNNECESSARY
TOWEL EXPENSE.



"Dependable Since 1897"

THE CHICAGO HARDWARE FOUNDRY CO.
6257 Commonwealth Ave. North Chicago, Ill.

An Answer to your DISTRIBUTION PROBLEMS

Trim the costs of getting your goods to customers through the many services offered by public merchandise warehouses. You can improve service, increase sales, speed delivery when you work through The D. H. Overmyer Warehouse Sales Company.

Let this nationwide warehouse sales group work with you in arranging low-cost, efficient distribution in any market . . . large or small. Sales offices coast to coast. Complete data available without cost or obligation. Clip and mail coupon below.

OVERMYER WAREHOUSE SALES CO.

P.O. BOX 1735

TOLEDO 4, OHIO

Send complete information about your coast-to-coast warehousing service, without obligation to us.

Name _____

Address _____

City _____ State _____

optimism. Timken, a specialty steel-maker, pioneered in using Magnaglo to inspect a large volume of semifinished steel. It has been inspecting tube rounds with the process since 1953.

Timken has a Magnaglo installation which it uses to check all tube rounds for two of its seamless piercing mills. Two men, one inspecting and one scarfing—routing out defects with an oxyacetylene torch—perform 100% inspection and necessary scarfing on all rounds for the two mills, with less handling and higher yields than ever before.

The company says it has increased its yield up to 5% by reducing the proportion of defective tubes. In addition, Timken says it has speeded deliveries, cut down on inventory, and has eliminated an acid pickling step—which can save perhaps \$1 a ton in steel processing. Pickling removes the scale that covers small cracks and is necessary before spotting defects visually, but since the magnetic field from a defect will pile up magnetic particles on the outside of the scale, you don't have to be able to see the metal itself to know where the fault is.

One major steel producer feels that a half-million-dollar investment in Magnaglo equipment and new material handling systems needed to move the billets to and from the inspection and scarfing benches will pay for itself in less than one year.

If such savings materialize, Magnaglo inspection is in for a bigger boom than even the manufacturer can predict comfortably. The amount of equipment needed to supply such demand would be staggering in proportion to the existing business of Magnaflex.

• **The Process**—Basically, Magnaglo is a simple process. When a piece of steel is magnetized, a small magnetic field is created around any breaks or cracks in the surface. The two sides of the break become the north and south poles of a miniature horseshoe magnet looping around the opening. By pouring a water solution containing finely divided magnetic particles over the magnetized steel, the particles align themselves in the crack or break, attracted by the magnetic field.

Because of residual magnetic effects and the natural desire of the particles to cling to each other, once they are aligned in a break, they indicate the flaw even when the magnetizing current is removed. In the Magnaglo process, a fluorescent dye has been placed on the magnetic particles. Thus, by moving the tube round, billet, or other product to be inspected under an ultraviolet light after application of the particles, any flaws, cracks, or imperfections in the surface glow and are easily detected—and can be removed by selective scarfing.



This is a BUSINESS CARD?

Certainly! What's more, your business card information on a fine Barton Sabre Pencil is headed straight for your customer's or prospect's pocket. You're there between calls . . . even during competitors' calls.

For practical business cards that stay alive . . . and active . . . write today for detailed specification sheet on the Sabre.

"You're there" with . . .

SHAW-BARTON
Calendar and Specially Advertising

SALES OFFICES IN PRINCIPAL CITIES
GENERAL OFFICES, COSHOCTON, OHIO

BETTER BE ON The Safe Side



Non-insulated steel files can be incinerators when an office fire comes. And 43 out of 100 firms losing their vital records in a fire never reopen. Better be on the safe side. Protect your vital records 24 hours a day—at point of use—in Hercules® Underwriters' Laboratories approved insulated steel files. Letter, legal, ledger and check sizes. At your Meilink dealer or write to Meilink Steel Safe Company, Toledo 6, Ohio.

with **MEILINK** it's for keeps
Most complete line of safes and insulated products



bonded by Parsons!

Crisp, clean, strong cotton fibers in your letterhead paper, bond your words in prestige and permanence. Your secretary knows—typing is neater, corrections are easier, folding is smoother. Your customers know—the quality and permanent dignity of your letterhead emphasizes the sincerity of your letter. For just these reasons, Parsons King Cotton Papers have been preferred for over 100 years. Perhaps your letters, too, would be more impressive on Parsons Cotton Fiber Papers.



Parsons
papers



WRITE ON YOUR BUSINESS LETTERHEAD FOR THE NEW PORTFOLIO OF LETTERHEAD DESIGNS, NO. 16, PARSONS PAPER CO., HOLYOKE, MASS. © PFCO 1957

A surface blemish in a tube round can be scarfed easily before the round is pierced. Final scarfing of that tube might have removed enough metal to reduce wall thickness below tolerance, causing its rejection. The same type of savings can be effected in other products, according to those experimenting with the process.

To eliminate these potential defects in the final product, many companies now machine-scarf all four sides of semi-finished steel products. One source estimates that nearly 20% of all steel produced in the U.S. this year will be machine-scarfed.

Those backing the Magnaglo method feel it will eliminate the need for machine-scarfing of products not finished directly from the ingot. This would save considerable steel now consumed by scarfing machines. That could mean the equivalent of a capacity expansion that would cost at least \$25.5-million if you had to build it. Profitwise, it could mean about \$2.5-million.

About the only built-in weakness in the Magnaglo technique is that it isn't effective above 600F. That puts it in conflict with the steel industry's trend toward direct finishing of hot ingots.

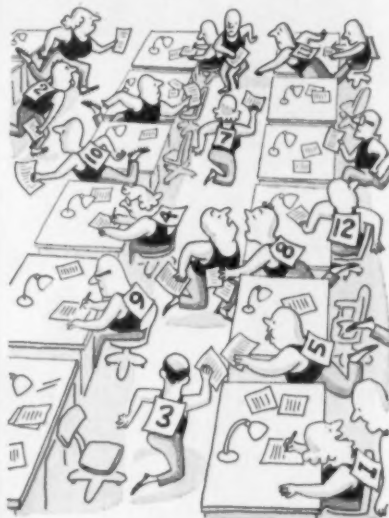
• **Package**—Magnaflux Corp. sells the unit for flooding the product with the water-borne detection material, the ultraviolet light system, the magnetizing power unit, and the paste containing the magnetic particles. The user furnishes his own material-handling equipment to move the product to and from the Magnaglo unit and scarfing bench.

• **Key Spot**—Supplying the special magnetic detection paste puts Magnaflux Corp. somewhat in the position of the razor blade manufacturers in that once the equipment is installed it has a constant customer. The company says that the exact composition of the paste, the size of the particles, dye, and the method of manufacture are critical. Since it's not anxious to encourage competitors, it's keeping this information a trade secret.

While it jealously protects its formula for the paste, the company already is working on ways to eliminate it from the inspection process. Researches at Magnaflux are trying to develop an electronic system to detect the magnetic field around breaks in the surface and to scarf them automatically. When such a system is developed, it will eliminate the magnetic paste and the ultraviolet lights.

Meanwhile, the company already has patented a television monitoring method of detecting the glowing particles for automatic scarfing. Although this won't get rid of the magnetic paste, it will speed things up by eliminating the on-the-spot visual inspector and hand scarfing. **END**

RUNNING A "WALKATHON" IN YOUR OFFICE?



GET RCA MULTI-COM

Now you can convert walking time into working time in your office—by installing smartly styled, compact RCA Multi-Com on key desks. Multi-Com puts essential personnel, records, and statistics within fingertip reach of decision-makers. Flick a switch on your Multi-Com master instrument and you get your man instantly. Efficiency goes up because more people stay at their desks. Information flows faster, work gets out more quickly. Regular switchboards are free to handle a larger volume of outside calls.

To plan an RCA Multi-Com system that suits your inter-office communication needs exactly, call your RCA Engineered Sound Distributor... listed in the Yellow Pages under "Sound Systems" or "Intercommunications Equipment." Or write direct for more information. Dept. S-26.



FOR INTERCOM... BUY MULTI-COM



TMK(s) ®

**RADIO CORPORATION
of AMERICA**

SOUND PRODUCTS • CAMDEN, N. J.

CONTROL



Louis Pasteur (1822-1895) supervises the vaccination of a child.

The Bettmann Archive

Medical science became front-page news with discoveries like those made by Louis Pasteur in his fight against harmful bacteria. Scientist, teacher, crusader, his name became legend while he lived.

While Pasteur's greatest credit during his lifetime came from his work in connection with rabies prevention, his name has been perpetuated by what has come to be known as the pasteurization process.

Taylor has been a co-pioneer in practically every method of automatic milk pasteurization in the last 40 years. The High Temperature Short Time process, demanding fraction-of-a-degree temperature control for an exact number of seconds, is controlled by a Taylor system regulating the process continuously, automatically with absolute dependability.

Taylor Engineers, working closely with sanitarians, equipment manufacturers' design engineers and milk plant owners, have contributed to many major advancements in the safe handling of milk from cow to consumer. There's hardly a milk plant today in which Taylor instruments are not standard equipment.

Taylor instruments and systems have been at work since 1851 — cutting costs, and improving quality in fields like chemicals, paper, power, steel, textiles and petroleum — any place you must measure and control key variables like temperature, pressure, flow, humidity, liquid level, speed, load and density.

It costs nothing when your staff talks with a Taylor Field Engineer. It may save you much. Taylor Instrument Companies, Rochester, N. Y., Toronto, Canada.

Taylor Instruments

VISION • INGENUITY • DEPENDABILITY

Thorium Gets Boost—But Not Far

● Uranium producers touring AEC facilities run into new agitation for rival thorium as nuclear energy source.

● Reactor scientists see thorium's fuel-breeding advantage and greater supply giving it an edge.

● But practical difficulties still stand in way—and AEC officials give thorium's claims a cold shoulder.

Agitation for the use of thorium as a source of nuclear energy in addition to uranium is getting a fresh impetus as more and more reactor designs move from the theoretical stage toward practical realization. But though the potentialities of thorium increasingly fascinate many power reactor scientists, they continue to leave Washington slightly cold.

These opposing lines of opinion on the use of thorium could be seen in conflict in a tour of Atomic Energy Commission facilities made by a group of Western uranium producers under the sponsorship of the Uranium Institute of America.

From several nuclear scientists close to the power reactor development program, the group heard some enthusiastic boosts for the "great promise" shown by thorium. But further along, the touring producers ran into a loud chorus of dissents from a panel of top AEC officials in Washington.

Basically, the controversy is probably as old as the drive to build power reactors—but up to now it has been academic. As reactor projects multiply and advance closer to actual installations, it's flaring up again to a battle for bigger stakes.

• **Boosters**—Two of the biggest rooters for thorium heard by the producers' group were the assistant director of the Oak Ridge National Laboratory, Dr. Robert Charpie, and the associate director of the Argonne National Laboratory, Dr. Stuart McLain. Uranium and thorium are complementary, Charpie told the group, "but I will bet that more money will be made on thorium in the next 25 years."

Here are the advantages that these and other scientists see in thorium:

The first arises from the generally accepted view that low-cost nuclear power depends on the development of breeder-type reactors, which create new nuclear fuel as fast as or faster than they use it up. Such reactors can use either thorium or uranium.

It's the view of Charpie and McLain that thorium has the most to offer—because thorium-using reactors are technically simpler than breeder reactors

using uranium. In the type of reactor they envision, the thorium serves as a neutron-absorbing blanket around the actual fissioning material. Under the neutron bombardment emanating from the fissioning core, the thorium itself gradually turns into fissionable material.

A second advantage of thorium as a nuclear fuel is its greater supply. Estimates vary, but according to Argonne's McLain, there is four times as much thorium in the earth's crust as there is uranium.

• **A Strong Contender**—Oak Ridge's Charpie thinks the neatness and compactness of the concept underlying use of thorium make it a strong contender as a nuclear power source. He sees the use of thorium as basic to the development of the aqueous homogeneous reactor the Oak Ridge National Lab is now working on. In this type of reactor (BW—Feb. 9 '57, p103), the fissionable material is dissolved in heavy water, and the solution serves as fuel, moderator, and coolant.

This, Charpie points out, eliminates the need of fuel elements, control rods, and a primary coolant and heat exchanger system. But he concedes there are plenty of difficulties involved—the biggest being how to handle the highly corrosive fuel-coolant solution.

• **No Bandwagon**—Despite these persuasive arguments, only three reactors of the dozens planned will definitely be thorium converters. Many in the field are cold to the arguments, or want more proof. Though few really dispute thorium's good points, many say that its advantages so far are largely theoretical. The numerous, still-unresolved practical problems in the thorium approach prevent any bandwagon rush. Here are some restraining factors:

• **Thorium converters**, theoretically, make enough fissionable material to keep the reactor going. But in the Oak Ridge prototype, the newly created fissionable material is in the wrong place—it's in the blanket that surrounds the reactor core but is separately contained. Only now are scientists approaching the problem of how to separate the fissionable material from

the thorium blanket so as to feed it back into the reactor.

• The AEC already has a tremendous investment in uranium processing plants—one Oak Ridge plant alone represents almost \$1-billion. Some think this tends to keep AEC more interested in uranium than in thorium. Others regard the attitude of AEC's top brass toward thorium as influenced by a fear of causing a panic among U.S. uranium producers, and by a commitment to uranium.

• The question of reserves—and their location—is also important. Uranium reserves are pretty well defined. Thorium reserves are not—and on top of that, the biggest proved reserves are overseas (Brazil, South Africa, India). These considerations involve national defense as well as costs.

• **AEC Views**—AEC's lack of enthusiasm for thorium came out in the Uranium Institute tour. W. Kenneth Davis, director of AEC's Reactor Development Div., told the producers that relative costs will determine whether thorium or uranium is used—and right now thorium is more expensive. Besides, he said, in the last few years reactor scientists have uncovered more new reactor problems than they have found solutions to old ones. He mentioned specifically the corrosion difficulties in the Oak Ridge reactor.

Francis Bowling, chief of the AEC's Feed Materials Branch, stated the current AEC stand even more strongly. "We cannot determine any significant demand for thorium," he said. "We have no facilities in operation for the processing of thorium."

• **Caution**—However divergent were the views heard by the touring uranium producers on thorium's role, they found AEC officials and reactor scientists almost unanimous on another point. Opponents in the thorium controversy joined in cautioning that the day of power reactors—whether uranium or thorium breeders—that would be competitive as to costs is still a long way off.

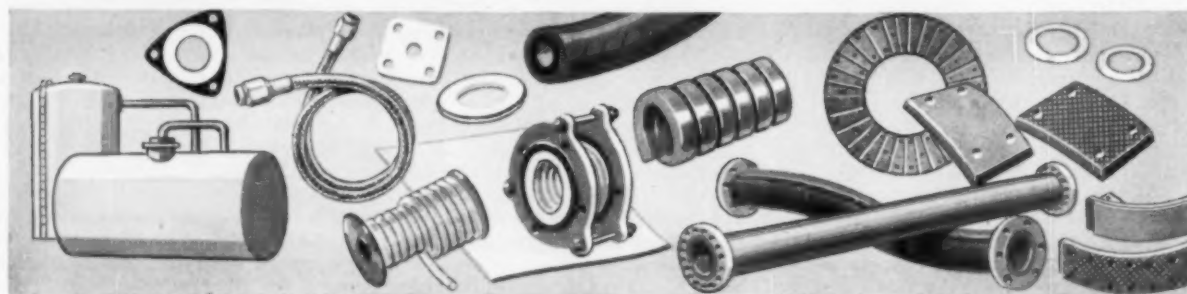
Davis saw the principal activity in the next few years in developing reactors for sale abroad, with 1965 or 1970 as the earliest date when nuclear power plants would produce electricity as cheaply as coal can in the U.S. Charpie chimed in that if he wanted a big return on his investment in the next 25 years, "I would put my money in coal."

Both, however, saw nuclear plants eventually winning out over coal. McLain estimated that there is 30 to 100 times more energy available in uranium and thorium than in all the reserves of the fossil fuels. **END**

Whoever You Are . . . Whatever Your Business . . . An R/M Product Touches Your Life



CHEMICAL AND PHARMACEUTICAL PLANTS of all kinds rely on many R/M products for the corrosion resistance, strength, and long service life in fluid handling equipment that enable them to process acids, chemicals, antibiotics and other drugs with safety and economy.



SOME OF THE R/M PRODUCTS used in the chemical industry include rubber lined tanks and pipe; wire-braided and rubber-covered flexible Teflon® hose; mechanical packings and gaskets; Teflon and rubber expansion joints; rubber hose; friction materials.

R/M Helps Make Chemical Processing Safe and Economical

For years R/M has worked closely with the chemical industry to help cut costs and increase safety and efficiency. For example, R/M's wide experience and know-how are needed to rubber line tanks, vats and pipe, eliminating costly contamination and corrosion. R/M Molded and Machined Teflon Parts and R/M Wire-Braided and Rubber-Covered Flexible Teflon Hose are impervious to all chemicals. R/M Rubber Hose of many kinds and varying construction carry steam, many acids and other fluids. R/M Teflon and Rubber Expansion Joints protect equipment against pressure and vibration. R/M Mechanical Packings and Gasket Materials seal in fluids and gases in equipment of every type. Heat-resistant R/M Silvestos® Cloth garments protect workmen from burns and

abrasions. R/M Conveyor Belts move raw material economically. R/M Poly-V® Drives and conventional V-belts transmit power efficiently. Chemical tank trucks carrying critical loads rely, like millions of trucks and passenger cars, on R/M Brake Blocks, Linings, Clutch Facings, and Automatic Transmission Friction Parts for safe, smooth stops and starts.

Not only the chemical industry, but hundreds of other industries as well depend on the economical, reliable products and specialized skills of Raybestos-Manhattan. R/M keeps seven great plants and laboratories working in four big fields—*asbestos, rubber, engineered plastics, and sintered metal*. Take advantage of this experience. Talk it over with R/M if your problem involves any of these materials.

*A Du Pont trademark

RAYBESTOS-MANHATTAN, INC.

PASSAIC, NEW JERSEY

Raybestos ... Condor • **MANHATTAN ... Grey-Rock**

SPECIALISTS IN ASBESTOS, RUBBER, SINTERED METAL, ENGINEERED PLASTICS

Other R/M Products: Asbestos Textiles • Engineered Plastics • Sintered Metal Products • Industrial Rubber • Abrasive and Diamond Wheels • Industrial Adhesives • Laundry Pads and Covers • Bowling Balls

Factories: Passaic, N.J. • Bridgeport, Conn. • Manheim, Pa. • No. Charleston, S.C. • Crawfordsville, Ind. • Neenah, Wis. • Peterborough, Ontario, Canada



A Tube That Shrinks TV Sets

A new design utilizing a wider (110 deg.) deflection angle shortens the length of the picture tube. This means the new sets coming on the market will be shallower—perhaps by as much as 6 in. Manufacturers gleefully expect that the smaller, lighter receivers will boost their sales, especially in the table model and portable lines. But the innovation also means some new production problems as manufacturers get started.

It's STILL too early to go out and buy a television set that's so flat you can hang it on the wall like a picture. That's the ultimate goal of the television tube designers. They've a long way to go before they reach it, but en route they're managing to whack important inches off the length of the standard picture tube. The sketches at the right show the progress that has been made toward flattening out tubes—and hence reducing the size of the finished sets.

Here's where things stand now. Many of the sets coming on the market now will be about 6 in. shallower on the average than older models and will weigh up to one-fourth less. This is the direct result of a new 110-deg. television tube that is shorter than its predecessors. RCA was first to introduce the new tube last October, and it has been able to cut the tube length of its 21-in. sets from 20 in. to 14½ in. Now most manufacturers eagerly expect the new tube to bolster sagging TV sales by making the portable and table-top models smaller and easier to handle.

• **The New Design**—Redesign of the electron gun that projects the picture beams from the neck of the tube onto the picture screen and a greater deflection angle are the major features of the new tube.

The old tube used an ion trap in the neck of the tube. This attracted harmful ion particles from the picture beam before they reached the phosphor-coated screen and damaged it. The new tube uses an electrostatic straight gun that catches the ions before they reach the end of the gun and eliminates the trap. This is what makes the tube lighter. The new design also makes the tube easier to service.

The wider deflection angle makes possible a flatter triangle for the area between the tube neck and the screen. This shortens the tube length. And it allows the manufacturers to reduce the chassis size of their sets by a considerable amount for the first time since the days of the 10-in. tube.

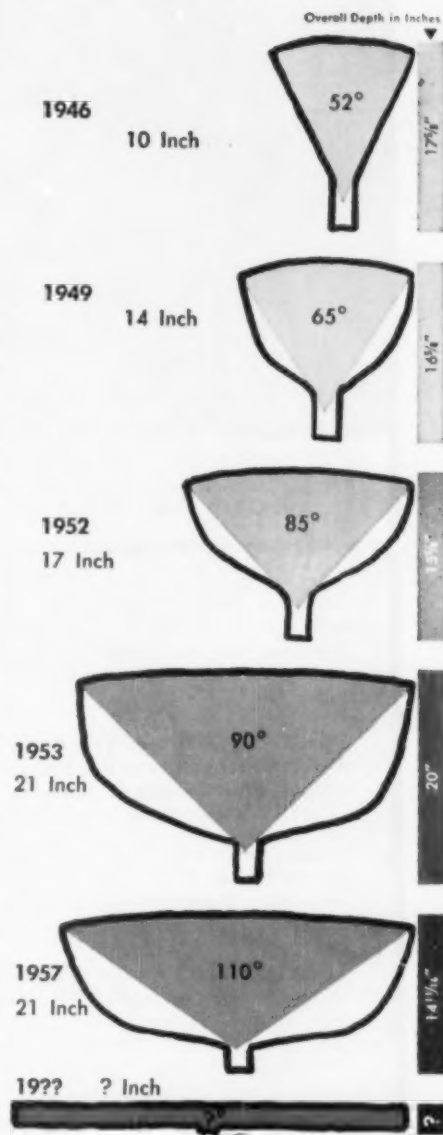
• **Production Problems**—But the shorter tube isn't an unmixed blessing. It also poses some headaches for the manu-

facturer. Up until now, the need for a deep case to house the picture tube has left plenty of room for the circuitry. But, to take advantage of the shorter tube, the new chassis will be hardly more than half the size of the old ones in most cases. That means vacuum tubes will have to be placed closer together. And to keep the wiring uncongested more printed circuits (which replace wires with copper strips) will have to be used. Retooling for this is going to cost plenty in time and money. One manufacturer had to adjust and retool its entire assembly line to wash the glass, settle the phosphor screen, create a vacuum in the tube, seal it, and install the new straight gun.

• **More Power Needed**—On top of that, the new tube itself carries a disadvantage. In most cases, it takes more electrical power to deflect the beam to the far corners of the screen of the increased angle tube than for those now commonly in use. That's why manufacturers hesitate to credit the new tube with cost saving. Instead, they enthuse about space-saving possibilities.

Nearly all manufacturers are planning to include some 110-deg. angle tubes in their sets this year. Most are keeping quiet about what models will feature the tube innovation until the new lines are introduced this summer and they've had a chance to whittle down the inventories of 90-deg. tube sets. According to a survey by Electronics, a McGraw-Hill publication, tube sales are off 6.4% against last year. But it's a safe bet that 110-deg. tubes will appear in most of the so-called portable lines.

• **Strong Advocate**—Sylvania feels so strongly that the trend today is toward smaller sets, that it already has announced that its entire 1958 line will feature the 110-deg. tube. The company has had some experience with the 110-deg. tube. It introduced a 17-in. 110-deg. portable last December. And sales for the first two months of 1957 are running better than 2-to-1 ahead of a similar period last year. In May, Sylvania plans to bring out a 21-in. set using the new tube, and then a 24-in. model a little later on.



By switching to the new tubes and printed circuits, the company has reduced the over-all dimensions of its sets up to 50% and the weight by about 20%. This is probably a pretty good indication of what the sets put out by other manufacturers will be like.

• **Boost in Output**—RCA's tube division currently is boosting its daily production of 110-deg. 21-in. tubes from 1,000 to 3,500. Although orders are not yet matching production rates, the company feels sales will increase sharply in the next few months. By that time, RCA also will be making the new tubes in 17-in. and 24-in. sizes. It is working



"hard to realize..."

"... It's hard to realize how a machine could hold together after taking cement dust punishment like this every day!" So says C. H. Snead, Equipment Superintendent for Concrete Supply Company, as the fast-moving HAH "PAYLOADER" tractor-shovel carries another big 21-bag payload of bulk cement from the dusty hold.

HERE ARE THE FACTS: Concrete Supply operates three ready-mix concrete plants in the Pensacola area. Its bulk cement supply arrives in 6,000-barrel loads on covered barges. The "PAYLOADER" unloads a barge in about 25 working hours.

Proven "PAYLOADER" performance combines the advantages of torque converter drive, power-transfer differential, power-steering and other features with 3,000 lb. carrying capacity (1 cu. yd. bucket). Optional attachments further increase its usefulness.

"PAYLOADER" models are available in 6 sizes up to 9,000 lbs. carrying capacity (or 3 cu. yd. bucket) for every indoor or outdoor use. A nearby Distributor is ready to demonstrate what a "PAYLOADER" can do for you. The Frank G. Hough Co., 700 Sunnyside Ave., Libertyville, Ill.

82



PAYLOADER®

MANUFACTURED BY
THE FRANK G. HOUGH CO. LIBERTYVILLE, ILL.
SUBSIDIARY—INTERNATIONAL HARVESTER COMPANY



Send full
PAYLOADER®
data on

- ☐ Four-wheel-drive
sizes 1 to 2 1/4 cu. yd.
- ☐ Rear-wheel-drive
3/4 to 1 cu. yd.
- ☐ Front-wheel-drive
1 1/4 cu. ft. to 1 cu. yd.

Name _____

Title _____

Company _____

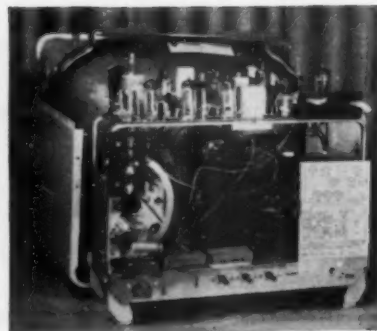
Street _____

City _____

State _____

82

5W



SLIM CHASSIS of 110-deg. TV sets requires space-saving devices such as printed circuits, horizontal mounting of tubes, wires.

on a 14-in. model. The company hasn't disclosed which of its lines will carry the new tubes.

Last month General Electric announced its first 14-in. and 17-in. portable sets with the 110-deg. tubes. It's too early for the company to tell how sales are doing, but other models will come equipped with the wide-angle tubes when GE's new line is introduced in June.

Westinghouse also is jumping on the new tube's bandwagon. The company, which demonstrated 17-in. and 21-in. models at the Institute of Radio Engineers show, now plans to put them in its own sets this summer. The company indicates the new sets will be at least 4 in. shallower than the old ones and claims to have found a way to cut power consumption by 25%. Westinghouse hopes that 35% of its TV sets will have 110-deg. tubes by the end of the year and that all sets will incorporate the shorter tube within two and a half years.

• **Partial Switch**—Pilot runs on a 17-in. 110-deg. portable have been completed by Du Mont and the company now is trying out its new model on dealers. The portable and a new table model are expected to be on the market late this month. In June, a 21-in. set will go into commercial production. Du Mont, however, has no intention at this time of switching over entirely to 110-deg. tubes. Its large consoles will still use 90-deg. tubes, although these will feature the new straight gun design.

Philco is slightly less enamored of the 110-deg. tube than most of the other manufacturers. The company, nevertheless, will announce in June its entrance into the new field on a limited scale. Its Lansdale Tube Div. will turn out the tubes.

Regardless of how soon and how many tube and set manufacturers switch to the 110-deg. tube for new TV receivers, the older smaller angled tubes will be in production for some time to come. That's because of the lucrative replacement market for the 38-million

from
order
to invoice...

WRITTEN JUST ONCE

End costly "repeat writing" every time you fill an order this new Ozalid *Direct Copy* way.

From just *one writing*... you get stock tickets, packing slips, accounting control copies, invoice—in fact, *all* your paperwork. As a result, you end costly, repetitious handcopying and retyping... eliminate copy errors and proofreading... get shipments and bills out sooner... improve customer service.

Ozalid ends wasteful duplication of paperwork throughout your business. In every department, Ozalid replaces costly writing or typing with inexpensive *Direct Copying*.

Ozalid makes copies of anything written, printed, typed or drawn on any paper that transmits light—at the lowest cost per copy of any similar process. Actually, you pay less than a penny for a letter-size sheet of sensitized Ozalid paper.

For the full story, call your local Ozalid representative... or send coupon below for more information.

OZALID®
DIRECT **COPY** SYSTEMS

A Division of General Aniline & Film Corporation. In Canada: Hughes Owens Company, Ltd., Montreal



Ozalid, Dept. D-5, Johnson City, N. Y.

Please send more information on how Ozalid *Direct Copying* can help us with our:

- | | | |
|---|-------------------------------------|--------------------------------------|
| <input type="checkbox"/> Order-Invoicing | <input type="checkbox"/> Purchasing | <input type="checkbox"/> Accounting |
| <input type="checkbox"/> Production Control | <input type="checkbox"/> Receiving | <input type="checkbox"/> Engineering |

Name _____

Position _____

Firm _____

Address _____

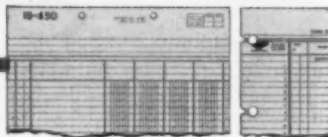
City _____ State _____



Stop "4 o'clock vision"



with **EYE-EASE**



No Glare, No Strain — Record Keeping
FORMS

ON HAMMERMILL PAPER

MADE ONLY BY NATIONAL BLANK BOOK COMPANY, HOLYOKE, MASSACHUSETTS,
MAKERS OF LOOSELEAF, BOUND BOOKS AND VISIBLE RECORDS FOR 113 YEARS.
AVAILABLE AT OVER 4000 NATIONAL BLANK BOOK DEALERS.



or so sets now in use. But this will create production problems for the manufacturers since it will be difficult—if not impossible—to use the same equipment and assembly lines for turning out the different type tubes.

• **How Flat?**—And while the manufacturers are trying to work out their new production problems, their tube designers will be trying to go them one better and come up with the flat tube. It isn't likely that the picture tube's angle of deflection will continue to increase in small jumps as it has in the past until it reaches the impossible ideal of 180 deg. The power required to spread the electrons across the screen at wide angles is too much to be commercially practical. And the electron gun would be too close to the phosphor screen. Rather, the flat tube probably will be the result of an entirely new approach to tube making. For that reason, no one in the industry is predicting that the flat tube will make its debut before five years at the very earliest.

Cheaper Cartoons

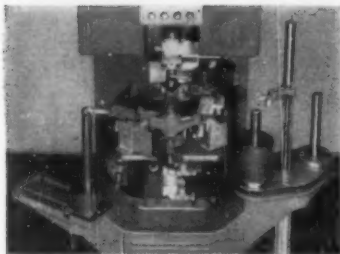
Animated cartoons for TV and other uses can be produced more cheaply untouched by human hands.

Machines replace the human artist in the production of animated cartoon films by a new method. Developed by Illustrated Films, Inc., of Hollywood, the process—called Artiscopes—uses special film and a mechanical drawing machine to transform live human performers into cartoon characters.

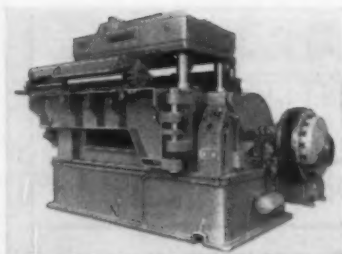
In the conventional animation process, each frame of a motion picture cartoon is drawn by hand. But the method is too slow for most television requirements, and too costly for the average advertising and TV budget.

• **Five Times Faster**—In the Artiscopes process, a live performance is photographed on a special-emulsion film developed for the company by Eastman Kodak. The developed film provides an outline figure of the performers. From this outline, the mechanical animator can fill in the desired cartoon effect at five times the speed of its human counterpart. The result can be varied by using different makeup and costumes on the actors. And, according to the developers, the finished film is more realistic, because human errors in drawing are eliminated.

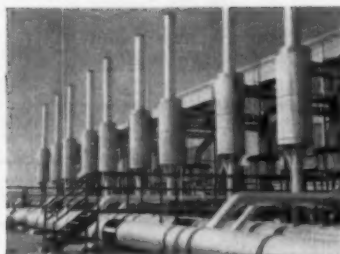
The faster process is expected to make it possible to film half-hour TV series of cartoons, based on comic strip characters, much more economically than before. The technique is also a possi-



Notching machine and high-speed feeding mechanism by **THE V&O PRESS COMPANY.**



HENRY & WRIGHT double crank, progressive Dieing Machine with 350-ton capacity.

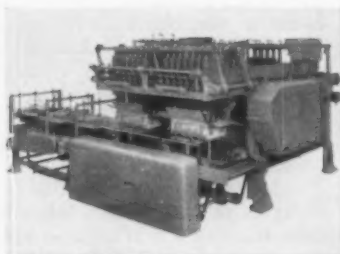


Natural gas booster station equipped with **THE MAXIM SILENCER COMPANY'S** devices.

The Economic Employment of Ideas



Fresh water obtained from sea with distilling unit by **THE MAXIM SILENCER COMPANY.**



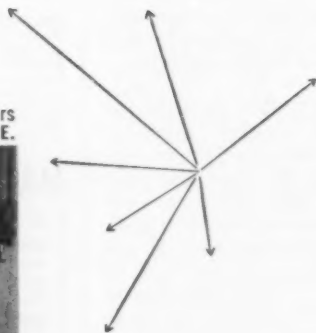
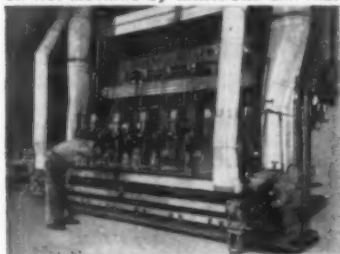
Cans or bottles loaded into cartons or cases by **STANDARD-KNAPP** Duplex Case Loader.



THE SKYWORKER CORPORATION'S multi-position boom for all kinds of work aloft.

EMHART

Automatic production of glass containers on I.S. Machine by **HARTFORD-EMPIRE.**



The broad range of idea employment by Emhart is indicated by the equipment shown here. To determine whether we can similarly help you, please write us about your requirements. A condensed catalog of standard Emhart equipment will be sent on request.

EMHART MFG. CO., HARTFORD 2, CONNECTICUT

clues:

To The Solution
of Management
Men's Problems

Published: weekly—closes 12 days in advance.

Rate—\$5.00 per line (\$4.00 per line for position wanted ads), minimum 2 lines. Allow 5 average words as line; count 2 words for box number.

REPLIES (Box No.): Address to office nearest you
NEW YORK: P. O. Box 12 (36)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

EMPLOYMENT

Position Wanted

Young engineer, 36, widely traveled throughout world as sales and service representative for aircraft company desires stimulating position as executive assistant or foreign regional representative. PW-5014, Business Week.

SELLING OPPORTUNITIES

Selling Opportunity Offered

Established Manufacturers Representatives now handling lines similar to die castings, stamping & screw machine products in Northern Ohio, Missouri and Michigan territories wanted to represent reputable metal power parts manufacturer. RW-5022, Business Week.

Selling Opportunity Wanted

Export Executive with 15 years successful selling experience wishes to represent U. S. Company in Mexico. Resume on request. RA-4960, Business Week.

SPECIAL SERVICES

Disaster Planning consulting, service to aid your industry or institution to prepare plans of action in case of fire, flood, natural disaster or civil defense situations. Timothy G. Stillman, P. O. Box 54B, Cornwall-on-Hudson, N. Y.

Mail Order-Exciting home business or office side line. Mail order executive will show you how to net large profits with no investment in merchandise or advertising required. Experience not necessary. Proven practical, fully explained in Free confidential letter. Write: Impact Inc., 2108 Payne Avenue, Dept. 10-11B, Cleveland 14, Ohio.

Need New York Representation? Successful Sales-Service executive opening N.Y.C. office, will represent you on part-time or special job basis. SS-4989, Business Week.

Registered Patent Attorney

Patent Information Book without obligation. G. Miller, 57-BW 1, Warner Bldg., Wash., D.C.

EXECUTIVE DEVELOPMENT

Join National Executives Assn. Many benefits. Write on your LH for free details. 1553 N. Clark, Chicago 10.

CAPITAL TO INVEST

Commercial & Real Estate financing. 1st & 2nd mgt. construction loans, machinery, equipment & inventory loans. Sales & lease back. Present financing consolidated & increased—payments reduced. Receivable discounting, rediscounting & instalment financing. Long term subordinated notes & debenture financing. New Venture Financing Stock issues arranged. U. S. & Canada. Sy Field, 1457 B'way, N. Y. 36, N. Y. Tel: WI 7-7395.

When Answering BOX NUMBERS

to expedite the handling of your correspondence and avoid confusion, please do not address a single reply to more than one individual box number. Be sure to address separate replies for each advertisement.

bility for use in industrial and training films.

Illustrated Films will provide technical help, process the film, make the frames, and then return them to the producer for creation of the final film.

NEW PRODUCTS BRIEFS

A new electric device for removing floor tile reportedly does the job five times faster than by hand. Developed by American Floor Machine Co. of Toledo, the innovation looks like an electric floor polisher, but instead of a brush, it has four steel cutter blades, which adjust to irregularities in the floor and rip the tile up evenly. Priced at \$569, the machine has a 115-230 v., 1-hp. electric motor.

Air contamination in an industrial plant—possibly dangerous both to personnel and products—can be easily detected with a new air sampler. Weighing less than 2 lb., it can be held in the palm of the hand. The power source is built-in. Some of the chemical villains it can identify: acid fumes, nitrogen oxides, sulphur dioxide, toluene diisocyanate, phosgene, and hydrogen sulphate. The manufacturer is Union Industrial Equipment Corp. of White Plains, N. Y.; the price, \$65.

Skylights of cast Solatex Silver acrylic sheet transmit a minimum of heat and a maximum of soft, diffused light, according to the manufacturer, Wasco Products, Inc., of Cambridge, Mass. Ordinary clear skylights let four times more light and heat through at noon than in early morning or late afternoon, it is said. But the Wascolite Reflectadome reduces the variation in light about 80%, in heat more than 50%. It costs about 5% more than other domes.

First all-aluminum unitized body in the automotive industry has been designed for the military by the Ford Motor Co. The new vehicle, a four-wheel-drive utility unit, was developed so that it can be transported easily by air or dropped by parachute.

A "99% native" alloy steel for jet engine bearings has been developed by Bower Roller Bearing Div. of Federal-Mogul-Bower Bearings, Inc. The main alloying ingredients are 3% nickel, 1.5% chromium, and 5% molybdenum. Normally, a steel of this type is alloyed with elements such as tungsten that is imported heavily. The new steel is being produced by Republic Steel Corp. Its development helps assure the U.S. of a supply of jet engine bearings in time of war.



REAL LOW COST MATERIALS HANDLING

A pair of 1500 lb. capacity Walkie-Worklifters with 108" lift stacking pallets at Minneapolis Honeywell Regulator Co., Chicago Plant. There are thirty-nine other fork or platform models with lifts of 58" to 120" and capacities of 1000 lbs. to 2000 lbs. Priced from \$1250.00 to \$2500.00. Walkie-Worklifters can be used in narrow aisles and on light capacity elevators. Any employee can operate a Walkie-Worklifter without special training. Write for details or see *Sweets Plant Engineering File 1A/EC*, Economy Engineering Company, 4537 West Lake Street, Chicago 24, Illinois.

ECONOMY ENGINEERING

clues:

To The Solution
of Management
Men's Problems

REPLIES (Box No.): Address to office nearest you
NEW YORK: P. O. Box 12 (36)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

BUSINESS OPPORTUNITIES

Free Catalog: Hundreds of Bargains on business, farms and income property for sale throughout the U. S. Deal direct with owners. Write: U 1 Buyers Digest, 1608 Hilhurst Ave., Dept. BW6, Los Angeles 27, Calif.

Patent for sale No 2,567,616. Electric insect Destroyer. Willie Allen Moore, Grambling, La.

Thinking of Retiring or Selling your business? Ask for our Booklet W-30. Reply on business stationery. Elsele & King, Libraire, Stoute & Co. Members New York Stock Exchange, 50 Broadway, New York 4, N. Y.

Cut Office \$ Overhead! Free Catalogue: Write: Accountants' Supply Co., 305 Canal St., NY 13

Available for Manufacture: oscillating base for power grinder in which the surface to be ground is in fixed position, with the grinder moving back and forth across it, thus guaranteeing true squareness. BO-4994, Business Week.

MAN HUNTERS

If you are looking for personnel on the executive level, there is no better way than through the more than 300,000 paid subscribers of this publication. You can make contact with them quickly, easily, and economically through BUSINESS WEEK'S high power classified section

clues

ADVERTISERS IN THIS ISSUE

Index for Business Week May 4, 1957 Issue

ACME STEEL CO. 68
Agency—Fuller & Smith & Ross, Inc.
ADDRESSOGRAPH-MULTIGRAPH CORP. 127
Agency—The Griswold-Eshleman Co.
AMERICAN AIRLINES, INC. 18-19
Agency—Lennen & Newell, Inc.
AMERICAN BLOWER CORP. 114-115
Agency—Brooks, Smith, French & Dorrance, Inc.
AMERICAN BRAKE SHOE CO. 22
Agency—Fuller & Smith & Ross, Inc.
AMERICAN CHAIN & CABLE CO., INC. 28-29
Agency—Belcher, Meyer & Finn, Inc.
AMERICAN MUTUAL LIABILITY
INSURANCE CO. 40
Agency—Common Adv., Inc.
AMERICAN RADIATOR & STANDARD
SANITARY CORP. 85
Agency—Batten, Barton, Durstine & Osborn, Inc.
AMERICAN SCREW CO. 133
Agency—Sutherland-Abbott
AMERICAN SMELTING & REFINING CO. 139
Agency—John Mather Lupton Co., Inc.
AMERICAN TELEPHONE & TELEGRAPH
CO. 3
Agency—N. A. Ayer & Son, Inc.
THE ANACONDA CO. 122
Agency—Kenyon & Eckhardt, Inc.
ARCO STEEL CO. 131
Agency—N. W. Ayer & Son, Inc.
ARMSTRONG CORP. 134
Agency—Dell, Benson & Mather, Inc.
ASSOCIATED SPRING CO. 81
Agency—The Davis Press, Inc.
AVCO MFG. CORP. (CROSBLEY DIV.) 150
Agency—Benton & Bowles, Inc.
BALTIMORE & OREGON RAILROAD 160
Agency—The Richard A. Foley Adv. Agency, Inc.
BANK OF NOVA SCOTIA 178
Agency—J. Walter Thompson Co., Ltd.
BAIFER-GREENE CO. 116
Agency—The Buchen Co.
BART MFG. CO. 92
Agency—Albert Frank-Guenther Law, Inc.
BELL & HOWELL 119
Agency—McAnn-Erickson, Inc.
BELLUOS CO. 32
Agency—Holtz & Co., Inc.
BENDIX AVIATION CORP. 167
Agency—MacManus, John & Adams, Inc.
BITUMINOUS COAL INSTITUTE 51
Agency—Vanderbilt & Co., Inc.
BODINE ELECTRIC CO. 178
Agency—The Fensholt Adv. Agency, Inc.
BURNHAM VAN SERVICE 116
Agency—J. H. Bond & Son Co.
CARPENTER STEEL CO. 136
Agency—Baumont, Heller & Sperling, Inc.
CENTRAL ILLINOIS PUBLIC SERVICE CO. 154
Agency—Boswell & Jacobs, Inc.
CHICAGO HARDWARE FOUNDRY CO. 184
Agency—Wilson Adv. Service
CHRYSLER CORP. 169
Agency—McAnn-Erickson, Inc.
CLUES (CLASSIFIED ADVERTISING) 194
CONNECTICUT GENERAL LIFE
INSURANCE CO. 65
Agency—Cunningham & Webb, Inc.
CONTINENTAL MOTORS CORP. 132
Agency—The Hopkins Agency
CURTIS-WRIGHT CORP. 70-71
Agency—Burlingame
DEARBORN CHEMICAL CO. 148
Agency—The Buchen Co.
DE LAVAL SEPARATOR CO. 16
Agency—Donahue & Co., Inc.
DENISON ENGINEERING DIV. 150
Agency—The Griswold-Eshleman Co.
F. W. DODGE CORP. 172
Agency—G. M. Bradford Co.
EASTMAN KODAK CO. 24-25
Agency—J. Walter Thompson Co.
ECONOMY ENGINEERING CO. 194
Agency—Kreitzer & Melson, Inc.
EMHART MFG. CO. 193
Agency—The Charles Brunelle Co.
ESTERBROOK PEN CO. 173
Agency—Young & Rubicam, Inc.
EXIDE INDUSTRIAL DIVISION—THE
ELECTRIC STORAGE BATTERY CO. 60-61
Agency—Gray & Rogers
FAIRCHILD ENGINE & AIRPLANE CORP. 27
Agency—Gaynor, Colman, Prentiss & Varley, Inc.
FINNELL SYSTEM, INC. 12
Agency—Johnson, Read & Co., Inc.
THE FIRST NATIONAL BANK OF
CHICAGO 23
Agency—Forte, Cone & Belding
FLYING TIGER LINE 163
Agency—Hixson & Jorgensen, Inc., Adv.
FRICK CO. 126
Agency—Waynesboro Adv. Agency
GEMAR ASSOCIATES 158
Agency—Froland, Inc.
GENERAL FLOORCRAFT, INC. 170
Agency—Pomeroy-Cabin Adv.
THE GLIDDEN CO. 117
Agency—Meldrum & Fessenden, Inc.
THE B. F. GOODRICH CHEMICAL
CO. 4th Cover
Agency—The Griswold-Eshleman Co.
GOODYEAR TIRE & RUBBER CO., INC.
(CHEMICAL DIV.) 2nd Cover
Agency—Kudner Agency, Inc.

GOODYEAR TIRE & RUBBER CO., INC. 14
Agency—Kudner Agency, Inc.
GREATER SAN ANTONIO DEV.
COMMITTEE 108
Agency—Wyatt Adv.
GREYVAN LINES, INC. 152
Agency—Robert Canahay, Inc.
GULF OIL CORP. 10-11
Agency—Ketchum, MacLeod & Grove, Inc.
THE E. F. HAUSERMAN CO. 121
Agency—Meldrum & Fessenden, Inc.
HEWITT-ROBINS 105
Agency—Fuller & Smith & Ross, Inc.
HEXCEL PRODUCTS INC. 143
Agency—Peter Hurst Adv., Inc.
HILLS-MCCANNA CO. 110
Agency—Wadde & Briggs, Inc.
THE FRANK G. HOUGH CO. 190
Agency—Ervin H. Abramson
F. C. HUYCK & SONS, INC. 65-67
Agency—Fuller & Smith & Ross, Inc.
HYATT BEARINGS DIV., GENERAL
MOTORS CORP. 3rd Cover
Agency—D. P. Brother & Co.
INDUSTRIAL PLANTS 91
Agency—J. J. Murphy Adv. Agency
INLAND STEEL PRODUCTS CO. 96
Agency—Ketchum, MacLeod & Grove, Inc.
INTERCHEMICAL CORP. 76
Agency—Fuller & Smith & Ross, Inc.
IOWA DEVELOPMENT COMMISSION 124
Agency—N. D. Lyon Co.
JEFFREY MFG. CO. 113
Agency—The Griswold-Eshleman Co.
JENNISON-WRIGHT CORP. 82
Agency—Fuller & Smith & Ross, Inc.
KELLY SPRINGFIELD TIRE CO. 77
Agency—Common Adv., Inc.
KEystone STEEL & WIRE CO. 84
Agency—Thomson Adv., Inc.
KLING PHOTO CORP. 60
Agency—Herbert Baker Adv., Inc.
LIBBEY OWENS-FORD GLASS CO. 98-99
Agency—Fuller & Smith & Ross, Inc.
LILY-TULIP CUP CORP. 26
Agency—Gies Adv. Agency, Inc.
LUKENS STEEL CO. 144
Agency—J. M. Mathes, Inc.
LYON METAL PRODUCTS, INC. 17
Agency—Rohrer, Meier & Finn, Inc.
MALLOY-SHARON TITANIUM CORP. 175
Agency—The Griswold-Eshleman Co.
MANTON GAULIN 170
Agency—Sutherland-Abbott
THE MOORE CO. 130
Agency—C. J. Lalor & Co., Inc.
MCGRAW-HILL PUBLISHING CO., INC. 180-181
MECHANICAL HANDLING SYSTEMS, INC. 74
Agency—The Fred W. Randall Co.
NEILINK STEEL SAFE CO. 184
Agency—Blanco Adv. Agency
MERCURY MFG. CO. 130
Agency—O'Grady, Anderson & Co., Inc.
MERRITT-CHAPMAN & SCOTT CORP. 87
Agency—Hoffman Manning, Inc.
MICHIGAN ECONOMICS DEV.
COMMISSION 170
Agency—MacManus, John & Adams, Inc.
THE MILLS CO. 171
Agency—Meermans, Inc.
MINNESOTA MINING & MFG. CO. 53
Agency—MacManus, John & Adams, Inc.
MINNESOTA MINING & MFG. CO. 123
Agency—Rutheff & Ryan, Inc.
MISSOURI PACIFIC LINES 138
Agency—D'Arey Adv. Co.
MONROE CALCULATING MACHINE 111
Agency—L. H. Hartman Co., Inc.
MOTCH & MERRYWEATHER MACHINERY
CO. 54
Agency—The Griswold-Eshleman Co.
NATIONAL ANILINE DIV. ALLIED
CHEMICAL & DYE CORP. 100
Agency—James J. McMahon, Inc.
NATIONAL BLANK BOOK CO. 192
Agency—Sutherland-Abbott
NATIONAL STANDARD CO. 33
Agency—The Griswold-Eshleman Co.
NATIONAL TOOL & DIE MFRS. ASSN. 179
Agency—Fred Wither Adv.
NATIONAL TRUCK LEASING SYSTEM 176
Agency—W. S. Kirkland
NEPTUNE METER CO. 101
Agency—W. L. Brown
NICKEL PLATE ROAD 130
Agency—Fuller & Smith & Ross, Inc.
THE OHIO CRANKSHAFT CO. 88-89
Agency—Carr Liggett Adv., Inc.
OHIO DEV. & PUBLICITY COMM. 112
Agency—Holtz & Co., Inc.
OLIN GAS & OIL CORP. 86
Agency—D'Arey Adv. Co.
OLIN MATHIESON CHEMICAL CORP.,
ALUMINUM DIV. 57
Agency—D'Arey Adv. Co.
D. H. OVERMYER WAREHOUSE SALES
CO. 184
Agency—Parker Agency, Inc.
OZALID DIV. (GENERAL ANILINE &
FILM CORP.) 191
Agency—Benton & Bowles, Inc.
PALMER-BRIKE CO. 126
Agency—Alfred R. Caldwell, Inc.
PARSONS PAPER CO. 185
Agency—Gibney & Barron

PIONEER SERVICE & ENGINEERING CO. 168
Agency—Henri, Hurst & McDonald, Inc.
PITTSBURGH CORNING CORP. 146
Agency—Ketchum, MacLeod & Grove, Inc.
PITTSBURGH PLATE GLASS CO. (PAINT
DIV.) 140
Agency—Maxon, Inc.
RADIO CORP. OF AMERICA, (COMM.
ELECTRONIC PRODS.) 185
Agency—Clinton E. Frank, Inc.
RAYBESTOS-MANHATTAN, INC. 188
Agency—Gray & Rogers
REMINOTON BAND DIV. OF SPERRY
RAND CORP. 58
Agency—Paris & Pearl, Inc.
REYNOLDS METALS CO. 8-9
Agency—Clinton E. Frank, Inc.
ROBBINS & MEYERS, INC. 125
Agency—Weber, Geiger & Kalat, Inc.
ROTARY LIFT CO. 102
Agency—Greenlaw & Bush, Inc.
ROYAL TYPEWRITER CO. 75
Agency—Young & Rubicam, Inc.
JOSEPH T. RYERSON & SON, INC. 34
Agency—Calkins & Holden, Inc.
SHAW-BARTON, INC. 184
Agency—The Hayless-Kerr Co.
SHAW-WALKER CO. 73
Agency—J. Walter Thompson Co.
S. K. F. INDUSTRIES, INC. 30
Agency—J. S. Tyson & Co., Inc.
A. J. SMITH CORP. 30-31
Agency—Kiss Van Peterson Dunlap, Inc.
STRATHMORE PAPER CO. 104
Agency—Abbot Kimball Co., Inc.
TAYLOR INSTRUMENT CO. 186
Agency—Batten, Barton, Durstine & Osborn
TOWNSEND CO. 174
Agency—Bond & Starr, Inc.
THE TRANE CO. 20-21
Agency—Campbell-Mithun, Inc.
TUBE METHODS INC. 62
Agency—John Miller
TWIN DISC CLUTCH CO. 80
Agency—Curless, Quinlan, Keene & Peck, Inc.
UNDERWOOD CORP. 182
Agency—William Rott Co., Inc.
UNION CARBIDE CORP. 160
Agency—J. M. Mathes, Inc.
UNION OIL CO. 83
Agency—Young & Rubicam, Inc.
UNITED GAS PIPE LINE CO. 79
Agency—Boswell & Jacobs, Inc.
VANADIUM CORP. OF AMERICA 37
Agency—Hazard Adv. Co.
VARIAN ASSOC. 158
Agency—Boland Assoc.
VEEDER-ROOT, INC. 4
Agency—Sutherland-Abbott
WARNER & SWABEY CO. 15
Agency—The Griswold-Eshleman Co.
WELLINGTON BEARS CO. 93
Agency—Ellington & Co., Inc.
THE WEST PENN. ELECTRIC CO., INC. 103
Agency—Albert Frank-Guenther Law, Inc.
WESTINGHOUSE ELECTRIC CORP.
(LAMP DIV.) 6-7
Agency—McAnn-Erickson, Inc.
WESTINGHOUSE ELECTRIC CORP. 97
Agency—Fuller & Smith & Ross, Inc.
WHITING-PLOVER PAPER CO. 72
Agency—The Brady Co., Inc.
YORK CORP., SUBSIDIARY BORG.
WARNER CORP. 109
Agency—Donahue & Coe, Inc.

ADVERTISING SALES STAFF

Midwestern Advertising Sales Manager
John P. Taylor—Chicago
Atlanta 3... Douglas C. Billian, Rhodes-Haverty
Bldg., Walnut 3778
Boston 15... Kent Sanger, Park Square Bldg.,
Hubbard 2-7100
Chicago 11... John F. Roemer, Herbert M. Hig-
gins, James E. McShane, Robert Sidur, 520 N.
Michigan Ave., Mohawk 4-1800
Cleveland 15... William C. Bradford, John G.
Cashin, Hanna Bldg., Superior 1-7000
Dallas 2... Gordon L. Jones, 991 Vaughn Bldg.,
Riveride 7-5117
Detroit 28... Richard J. McGuirk, C. C. Rand-
olph, Penobscot Bldg., Woodward 2-1793
Los Angeles 17... Alfred L. Blessing 1125 West
Sixth St., Madison 6-9351
New York 36... Harold E. Choate, John H. Glover,
G. Robert Griswold, John F. Jurasek, A. T.
Ostie, John H. Stevenson, 330 W. 42nd St.,
Longacre 4-3000
Philadelphia 3... R. Bernard Alexander, David S.
Conner, T. R. Robertson, Architects Bldg., 17th
& Sanson Sts., Rittenhouse 6-0670
Pittsburgh 22... John R. Thomas, Oliver Bldg.,
Atlantic 1-4707
St. Louis 8... James H. Cash, Continental Bldg.,
2615 Olive St., Jefferson 5-4867
San Francisco 4... John W. Otterson, 65 Post St.,
Douglas 3-4600
England... Herbert Lagler, McGraw-Hill Co. Ltd.,
95 Farringdon St., London, E. C. 4

Tax Reform versus Vote Catching

Just within the past couple of weeks, the wind from Washington has begun to bear the heady scent of tax cutting. Some sort of reduction, applying to 1958 incomes, is now an even-money bet around the capital. Congressmen of both parties are beginning to maneuver on the twin assumptions that there will be a cut and that the important thing is to see that the other side doesn't get credit for it.

All this is bound to intensify the taxpayer protests and the demands for economy that have been flooding in on Congress since the start of the year. For nothing is so calculated to make the burden of a man's taxes intolerable as the thought that, if he screams loudly enough, something just possibly might be done about it.

It is impossible not to sympathize with the nationwide resentment of taxes and the general yearning for relief. But there is hard fact about the present situation that has to be faced. The cut that is now in prospect will be a disappointment to practically everybody. And what is worse, it will rule out the kind of long-run tax revision that the country desperately needs.

As it stands, the U. S. tax system is not a system at all—in the sense of being a consistent body of levies based on some general principles and designed to produce the most revenue with the least disturbance to the economy. Instead, it is a loose collection of emergency measures that Congress has rammed through at one time or another in a desperate effort to meet some fiscal crisis. Built into these hastily-drawn and often contradictory laws are a variety of exceptions and exemptions, some deliberate, some accidental, some carefully engineered by various pressure groups.

The result is a tax structure that exalts the loophole artist and distorts the normal course of economic growth. This is morally wrong and economically dangerous.

What we need, and need most urgently, is to overhaul the system from top to bottom—cleaning out the inequities, introducing more flexibility, removing the contradictions. What we need, in other words, is thorough-going tax reform.

Now, as a matter of practical politics you can't have tax reform without cutting taxes substantially. No group with enough influence to get a favored niche in the present law is going to stand still while its advantage is wiped out, so the only way to remove inequities is in the course of a general tax reduction.

Nobody knows just how big a cut it would take to clean up the present tax structure of the U. S., but a fair guess would be \$5-billion or more.

At the moment, there is no sign that Congress

could make anything like that big a cut without plunging the budget deep into the red. The cuts that are now being talked up on Capitol Hill are somewhere in the \$2-billion to \$3-billion range.

This is where the trouble comes. Apparently, we can't at this time afford the general overhauling that we badly need. And if we dribble away \$2-billion or \$3-billion in cuts this year, we will be pushing any hope of real reform just that much further into the future.

There is only one way to avoid the trap that is built into this situation. That is for Congress to forget about making immediate cuts and get started with a broad study of the whole tax structure. From such a study it could develop a blueprint for real tax reform—designed to give the U. S. a system that will put the least possible burden on growth and cause the fewest distortions.

What the U. S. needs now is a plan for the future, not a quick, vote-catching cut hustled through with an eye on the 1958 elections. It will be a fool's choice indeed if we spoil our chances for permanent reform by snatching too eagerly at the bait.

The Right Approach

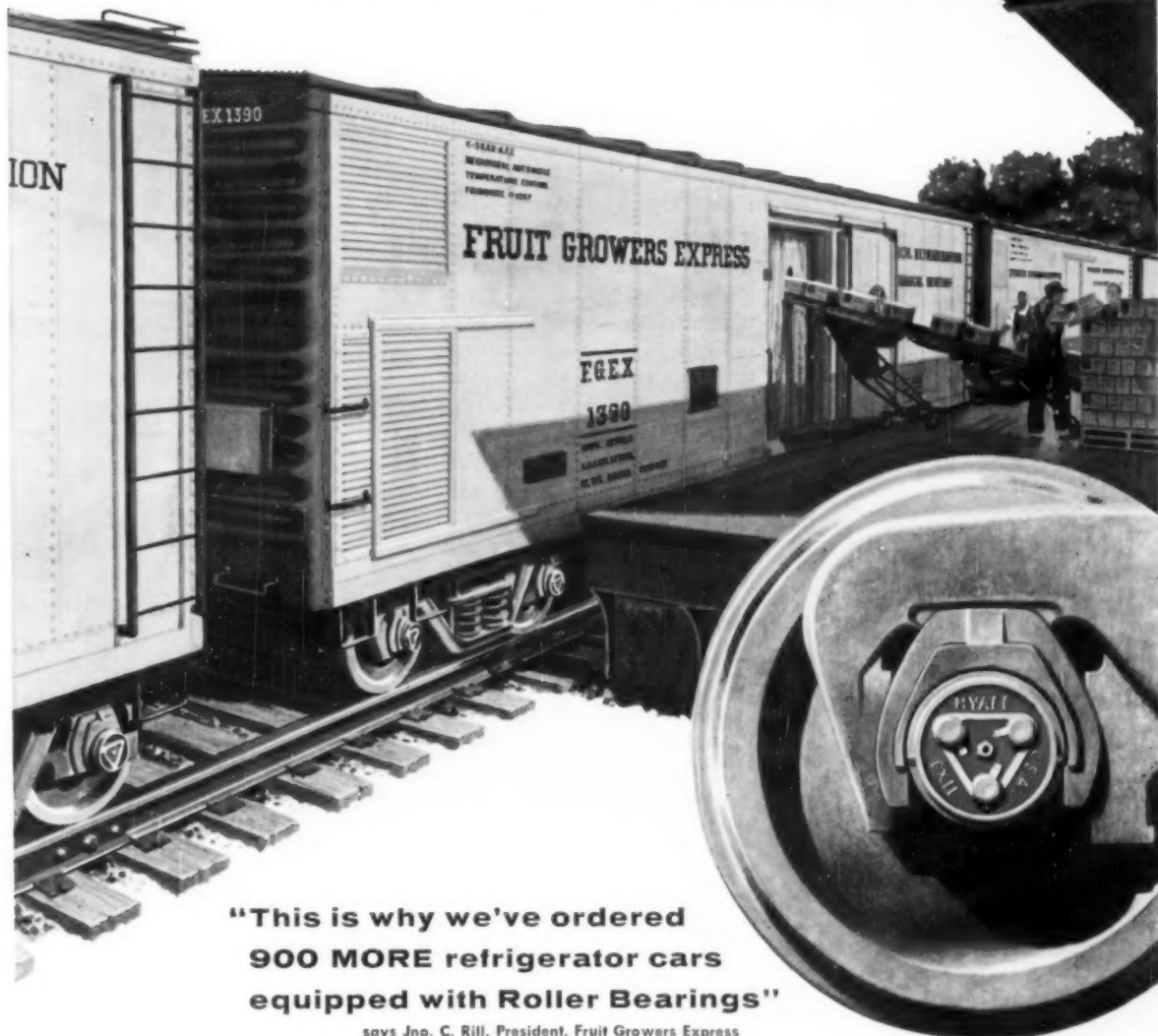
It is welcome news that the Administration will take the initiative in developing a program for dealing with the labor abuses being revealed by the McClellan Committee. In commissioning his Secretary of Labor, James P. Mitchell, to do that job, Pres. Eisenhower said: "We are prepared to take all actions, including appropriate legislative recommendations, that appear to be necessary."

This is the right approach. There will have to be some new laws, certainly. But there should also be a fundamental rethinking, and perhaps new functions, for agencies like the Dept. of Justice, the NLRB, and the Dept. of Labor. These already have power and authority that can be more effectively used. This need not wait on action by Congress.

But what is needed in the end is a complete and rounded program of both legislation and administrative action. One hopes for enough harmony between the legislative and the executive branch to get this accomplished in the public interest. For this to get done, individual senators and congressmen who have some pet panacea will have to practice restraint. The mood of Congress should not be that some law—any law—has to be passed in a hurry. The union problem calls for using a scalpel, not a meat-ax. Secy. Mitchell and Sen. McClellan ought to be able to work together in a nonpartisan spirit to perform a delicate piece of surgery that won't kill the patient.

900 MORE refrigerator cars

-all with *HYATT HY-ROLL BEARINGS!*



**"This is why we've ordered
900 MORE refrigerator cars
equipped with Roller Bearings"**

says Jno. C. Rill, President, Fruit Growers Express

"Flavor is a fleeting thing," says Mr. Rill, "so our constant aim is to provide faster, more dependable transportation for perishables and concentrates. That's why, three years ago, we made our first major investment in roller bearing refrigerator cars. The results have proved so satisfactory that we have now ordered 900 more cars equipped with roller bearings." All 900 roller bearing refrigerator cars ordered by Fruit Growers Express are *100% Hyatt equipped*—another example of the high priority given Hyatt Hy-Roll Bearings in today's railroad modernization programs. Hyatt Bearings Division, General Motors Corporation, Harrison, N.J.

Another  contribution to railroad prosperity

HYATT **HY-ROLL BEARINGS**
FOR NON-STOP FREIGHT

Another new development using

B.F. Goodrich Chemical raw materials



Hycar honeycomb extrusions in a blanket help railroads prevent hot boxes

MORE than 5,000,000 rail miles without a hot box! This amazing performance record in a volume application belongs to freight car journal box lubricators, which rely for efficiency on a unique, multiple-extruded honeycomb core of Hycar nitrile rubber.

The Hycar honeycomb lives in oil and acts as a spring support for the textile fiber blanket which wicks lubricant to the journal bearing. Honeycomb extrusions of Hycar

have outstanding properties: exceptional radial spring, axial stiffness and stability of shape and dimension.

Products made from Hycar are resistant to abrasion, gas, and many chemicals. They can also be made to withstand temperature extremes.

For information, write Dept. FA-5, B.F. Goodrich Chemical Company, 3135 Euclid Avenue, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

This is the first honeycomb construction to be multiple-extruded. Made of Hycar nitrile rubber, it is used as a spring core in freight car journal box lubricators manufactured by Miller Lubricator Company, Winona, Minnesota.

Hycar
Reg. U.S. Pat. Off.
American Rubber

B.F. Goodrich Chemical Company
a division of The B.F. Goodrich Company



GEON polyvinyl materials • HYCAR American rubber and latex • GOOD-RITE chemicals and plasticizers • HARMON colors